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The May *Review*

Understanding the impact of electronic business and the digitization of many traditional businesses is going to be a challenge for economic statisticians for years to come. Daniel E. Hecker's article is a preliminary, qualitative analysis of the potential impacts of these new businesses and business processes. The industries that provide the infrastructure for e-business—hardware, software, telecommunications networks—should generally see higher levels of output and employment. Other industries such as transportation and wholesale trade establishments that support so-called "e-tailing" will also see increase, but they might come at the expense of traditional retailing. In general, there are more circumstances in which stimulus in one industry or occupation is at least partially offset by a dampening impact in another.

William J. Carrington and Bruce C. Fallick investigate the group of workers who have been out of school and in the labor market for some time, but still have earnings at or near the minimum wage. They find, using National Longitudinal Survey data, that about 7 percent of their sample was earning within $.25 of the minimum wage 10 years into their careers and about 12 percent were within a dollar. Carrington and Fallick characterize these shares as "nontrivial" and analyze the characteristics of those workers with minimum wage careers.

David S. Johnson, John M. Rogers, and Lucilla Tan outline the history of family budget studies in the United States. Their article compares the prescriptive and descriptive approaches used to defining family budgets over the past century. They also use data from the Consumer Expenditure Survey to construct a current descriptive budget.

Days lost to injury

A total of 1.7 million injuries and illnesses that required recuperation away from work beyond the day of the incident were reported in private industry workplaces during 1999. This was about the same total number of these cases as in 1998, following steady declines from the levels prevailing early in the decade.

Since 1993, truck drivers, laborers, and nursing aides and orderlies have experienced the largest number of injuries and illnesses with time away from work. Find out more about lost-time injuries and illnesses in "Lost-worktime Injuries and Illnesses: Characteristics and Resulting Time Away From Work, 1999," USDL news release 01–71.

Fewer families with unemployment

Of the Nation's 71.7 million families, 5.7 percent reported having an unemployed member in an average week in 2000, a decline of 0.3 percentage point from the previous year. The proportion of black families with an unemployed member in 2000 (10.2 percent) was higher than the proportion for either Hispanic (9.0 percent) or white families (5.0 percent). Hispanic families had the largest drop in unemployment between 1999 and 2000, from 9.7 percent to 9.0 percent. See "Employment characteristics of families in 2000," news release USDL 01–103.

Most high school grads in labor force

About three-fifths of Class of 2000 high school graduates were in the labor force in October of that year. Four out of every five recent high school graduates not enrolled in college were in the labor force in October 2000.

Among the members of the year 2000 high school graduating class who enrolled in college, two-thirds were attending 4-year institutions. Of these students, nearly 40 percent also participated in the labor force by either working or actively looking for employment. Nearly 65 percent of recent high school graduates enrolled in 2-year colleges were in the labor force. Additional information is available from "College Enrollment and Work Activity of 2000 High School Graduates," news release USDL 01–94.

Multifactor productivity rose in 1999

Multifactor productivity—measured as output per unit of combined labor and capital inputs—rose 0.6 percent in the private nonfarm business sector in 1999. This was the eighth consecutive year of growth, but the lowest increase since 1995.

The multifactor productivity gain in 1999 reflected a 4.7-percent increase in output and a 4.1-percent increase in the combined inputs of capital and labor. In 1999, capital services grew 6.6 percent, while labor input grew 2.9 percent. Capital services showed the steepest gain since the series started in 1948.

Multifactor productivity is a measure of the joint influences on economic growth of technological change, efficiency improvements, returns to scale, reallocation of resources, and other factors. Multifactor productivity, therefore, differs from the labor productivity (output per hour) measures that are published quarterly by BLS because it requires information on capital services and other data that are not available on a quarterly basis. Additional information is available in "Multifactor Productivity Trends, 1999," news release USDL 01–82.

Communications regarding the *Monthly Labor Review* may be sent to the Editor-in-Chief at the addresses on the inside front cover, or faxed to (202) 691–5899. News releases discussed in this issue are available at:
http://stats.bls.gov/newsrels.htm

Employment impact of electronic business

Electronic business both stimulates and dampens employment in many occupations and industries; however, assessments of those impacts can only be qualitative rather than quantitative

Daniel E. Hecker

Every 2 years, the Bureau of Labor Statistics develops 10-year projections of industry and occupational employment, taking into account likely changes caused by new technologies and business practices. The 1998–2008 series of BLS projections, published in the November 1999 *Monthly Labor Review*, did not specifically address the effects of electronic business (e-business) on the economy, because of the recent nature of the phenomenon and the relative paucity of information pertaining to it. This article presents a first look at the extent to which e-business could affect industries and occupations over the next decade. The impacts described will be reflected, to the extent possible, in the 2000–10 projections, to be published in the November 2001 issue of the *Review*.

E-business, consisting of marketing and other business processes conducted over computer-mediated networks, is changing the way organizations in many industries operate. It leads to the automation of some job functions and replaces others with self-service operations, raising output per worker and dampening employment requirements in some occupations, as well as in the industries in which those occupations are concentrated. In contrast, e-business has *spurred* employment in industries producing hardware, software, and systems used by e-businesses and in computer and other occupations associated with websites and networks. Because of its increasing pervasiveness, e-business may be affecting output per worker and employment in virtually every industry.

Interest in e-business has spawned a host of quantitative projections by private forecasters, most of whom focus on cost reductions and industry sales growth; none specifically addresses the impact on employment. Because of the general dearth of quantitative information, the assessment presented in this article is completely qualitative. Prospective changes are discussed in terms of e-business stimulating or dampening employment or output in an industry or occupation. This approach differs from discussions in previous *Monthly Labor Review* projections articles, which incorporate the impact of numerous factors and which present employment increases or decreases from the base year to the target year. The approach also focuses primarily on industries and occupations with the largest potential impacts and those which, reportedly, are uniquely affected by e-business.

What does e-business encompass?

Electronic business (*e-business*) is any process that a business organization conducts over a computer-mediated network. It includes buying and selling, as well as a wide range of customer-, production-, and management-focused processes carried out by for-profit, government, or nonprofit entities.[1] E-business is based upon the processing and transmission of digitized information, in-

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cluding text, sound, and visual images, from one computer or some other electronic device to another. Most e-business processes are self-service, and some are or may soon become fully automated.

Electronic-commerce (*e-commerce*) is that part of e-business which involves buying and selling goods and services.[2] E-commerce may be classified into three groups:

- *Business to consumer* (*B2C*) includes retail transactions of goods, such as books and computers, and services, such as insurance, banking, and travel and ticket reservations.
- *Business to business* (*B2B*) includes transactions between manufacturers, wholesalers, retailers, construction firms, farms, service industries, governments, and nonprofit organizations.[3] Completely separating the impact of B2C and B2B is difficult, because online business establishments may use the same resources to deal with both consumers and businesses.[4]
- *Consumer to consumer* (*C2C*) consists primarily of individuals buying and selling through auctions.

Besides e-commerce, e-business encompasses many self-service and automated information transmission activities. Customer-focused processes enable buyers to obtain product information online and then complete the transfer of ownership offline, in stores, in sales offices, or with a telephone call or fax. Another component of e-business involves customer relations, including direct marketing by e-mail and numerous customer-self service transactions and after-sale processes and services, such as technical support (assistance in operating and maintaining technical products), requests for changes in service, updating records, transferring funds, and viewing the status of transactions, orders, and deliveries.

Management- or production-focused e-business activities involve the following functions or tasks:

- Procurement, including ordering, automated stock replenishment, payment processing, and other electronic B2B-related activities.
- Personnel-related activities, including online job postings, applications, and candidate screening; education, training, and testing; and employee self-processing of changes in benefits, travel arrangements, expense reports, supply orders, and the like.
- The use of networks for sharing information and databases, internally and with selected outside organizations, including suppliers, distributors, logistics partners, and customers; these links broaden and speed up the flow of information.
- The expansion of communication and collaboration through discussion forums, video- and audioconferencing, global calendaring, and team and project management.[5]

E-businesses rely heavily on physical systems—some unique, others used in "brick-and-mortar" (that is, physical) business operations as well. Among these systems are *intranets* and *extranets*—networks built on Internet-based technology. Unlike the Internet, intranets and extranets are accessible only by certain individuals or organizations. Intranets limit access to those within an organization and may or may not be linked to the external Internet. Extranets are networks linking organizations with a common interest—for example, customers, suppliers, and other business partners. Extranets greatly facilitate and speed the flow of information in management- or production-focused e-business activities.

E-businesses create *websites* that are digital versions of stores, catalogues, sales offices, branch banks, help desks, trading exchanges, and telephone and mail communications. These sites afford self-service or partially self-service sales transactions, eliminating or shortening the time sales and administrative support workers spend with customers. *E-mail* is used by sellers to communicate with customers, answer their questions, and inform them of the status of their orders or transactions, as well as to develop long-term relationships with those customers, offering them personalized, useful advice, articles of interest to them, and information on new products. Customers can submit product reviews and evaluations, register complaints, obtain product or procedural information, and resolve problems, dealing with workers in a customer service center. E-mail is also used for direct-mail marketing and advertising.

Companies are increasingly establishing *customer service* (*call*) *centers* that use e-mail or live phone connections to provide procedural or problem-solving assistance, advice, reassurance, product information not found on a website, or information on the status of orders. While most e-business transactions can be completely self-service, the availability of a physical customer service center increases the chances that a visitor will make a purchase (or complete another type of transaction), rather than abandon a site, and may also result in a larger purchase than otherwise. Many industries, such as catalogue and mail-order houses, store-based retailers, and banking, operated telephone call centers prior to the advent of e-business.

Companies engaged in "e-tailing" tend to keep their *inventory* in one or a few central *warehouses* for regional, national, or international delivery, except for digitized products, which are downloaded online. "E-grocers" handling perishables, online convenience stores, and some stationery and office supply stores maintain local warehouses. The most efficient warehouses are designed to "pick and pack" orders, ship packages to individuals, and handle returns, all with a sophisticated inventory control system. These warehouse are much different from traditional retail warehouses designed to ship bulk items to stores, but they are identical to warehouses used by catalogue and mail-order retailers. As regards *delivery services*, most sellers with local warehouses ship to customers, using their own fleet of vehicles; those with central warehouses arrange with air or trucking courier (package de-

livery) services or the U.S. Postal Service, as do catalogue and mail-order retailers.

Impact on occupations

Table 1 lists occupational groups and detailed occupations that, on the basis of research conducted for this article, are likely to be most affected by e-business activities.

E-business activities, in general, will spur employment needs for workers involved in e-business systems and organization and in website design. More computer workers are needed to set up, maintain, and oversee the additional hardware and software systems that e-businesses require. Among the workers needed are *computer and information systems managers*, *computer systems analysts*, *computer engineers*, *computer support specialists*, *database administrators*, *computer scientists*, and *computer programmers*. Some of these workers may have titles unique to e-business, such as web developer or web master; or they may bear more general computer titles, such as application developer or network systems administrator or engineer.

E-business activities also require more *artists and commercial artists*, *designers*, and *writers and editors*. Web pages used in e-business consist of text and visuals designed and developed by these workers. Some growth in the requirements for such workers, however, may be offset by reduced needs in print publication-related employment. E-business organizations also make use of *management analysts*, to develop strategies and integrate their Internet activities into existing operations. These analysts are employed in-house or are contracted through management consulting firms.

A number of factors could temper the need for additional website and systems-related workers. For example, shakeouts or consolidations of e-commerce firms, as have occurred over the past year, limit the number of systems. Because systems are highly scalable (that is, the need for workers depends mostly on the size and sophistication of the system), needs will not grow nearly as fast as the number of contacts or transactions. Finally, because e-business permits self-service technical support, it dampens the need for computer support specialists.[6]

Administrative support occupations, including clerical, account for more jobs—nearly 24.5 million in 1998—than any other major occupation group.[7] The group is projected to grow more slowly than the average for all occupations, primarily because of the effect of office automation on several large occupations, including bookkeepers, accountants, auditing clerks, and word processors and typists.[8] E-business, which automates many administrative support functions or makes them self-service, is expected to have a further dampening effect on employment requirements in these occupations. The reason is that much of the information that administrative support workers collect, manipulate, and distribute can be digitized and transmitted over networks. Self-service systems permit an organization's employees, customers, business partners, and others to input and retrieve information from the organization's computers without involving administrative support workers. This means that fewer workers are needed to answer questions, look up or enter computerized information, make reservations, produce and process documents, and prepare mailings. Affected occupations, among those employed in most industries, include secretaries, general office clerks, human resources assistants, order clerks, and receptionists; industry-specific occupations (discussed later in the section on industries) include reservation and transportation ticket agents and travel clerks, brokerage clerks, bank tellers, new-accounts clerks, loan and credit clerks, and postal clerks. The electronic delivery of digitized products, such as books, magazines, music and videos, business forms, and documents, eliminates the need for workers handling these items, including postal clerks, stock clerks, and shipping, receiving, and traffic

Table 1. Likely effect of e-business activities on employment requirements in selected occupations

[In thousands]

Occupation	Employment, 1998	Likely effect
All occupations	140,514	
Executive, administrative, and managerial:		
Engineering, science, and computer and information systems managers	326	Stimulates
Management analysts	345	Stimulates
Purchasing managers, purchasing agents, and wholesale and retail buyers	547	Dampens
Professional specialty:		
Artists and commercial artists	309	Stimulates
Computer systems analysts, engineers, and scientists	1,530	Stimulates, except dampens for computer support specialists in postsales technical support
Designers	335	Stimulates
Writers and editors	341	Stimulates
Technicians and related support:		
Computer programmers	648	Stimulates
Marketing and sales	15,341	Dampens
Administrative support workers, including clerical	24,461	Dampens
Customer service representatives (adjustment clerks)	479	Stimulates, but also dampens as more traditional duties are made self-service

clerks; at the same time, more efficient distribution systems and smaller inventories reduce the need for those workers who are still involved in physical distribution.

Among administrative support occupations, e-businesses may use more *customer service representatives,* also known as *adjustment clerks,* than traditional businesses. These workers investigate and resolve customer's problems with goods, services, or billing; take orders; or provide information and advice.[9] E-business has created a new role for customer service representatives. While operators of websites seek to provide all the information users need to complete transactions, they often do not succeed. Through phone or e-mail contact, customer service representatives provide e-business customers with procedural assistance, advice, reassurance, resolutions of their problems, and product information not found on websites; in brick-and-mortar businesses, many of these functions are performed face to face or over the telephone by sales and administrative support workers, including customer service representatives. The employment of representatives appears to be increasing as firms upgrade customer service operations, but most e-business transactions still do not require personal contact.[10] E-businesses may choose to hire more customer service representatives because they are finding that personal contact provided by these workers can stimulate sales and customer loyalty; however, to the extent that new technologies automate responses to e-mail questions, and as websites become more interactive, customized, and user friendly, as networks transmit information faster, and as customers become more "web savvy," the proportion of transactions requiring personal service could decline, offsetting somewhat the demand for additional clerks. Furthermore, e-business automation and self-service dampen the need for these workers in brick-and-mortar activities.

E-business activities are expected to dampen employment requirements for *marketing and sales occupations.* Self-service and automation using websites and e-mail permit sales without the need for workers in this major occupation group. For example, e-business dramatically streamlines the sales process by providing customers—businesses and consumers—with a potentially unlimited amount of information on products. E-business also helps users locate products, determine their availability, choose among alternative delivery arrangements, and process orders and payments. Furthermore, customers may have access to interactive devices that help them calculate their needs for certain products and custom-configure complex products such as computers and investment portfolios. Decision-support software offers tailored purchasing advice for complicated transactions. Developing technologies should permit increasingly sophisticated transactions to be undertaken without the need for sales workers.

E-tailing also permits partial self-service; that is, customers obtain information about products online before turning to sales workers to help them view or test products, to receive assurances, and to complete transactions. Each sales worker, in turn, handles more transactions, so the number of sales workers required is lower. Several other aspects of e-business also increase sales worker output; for example, e-businesses may use website advertising and e-mail to seek customers. Those customers found in this fashion are referred to sales workers, so the overall amount of time sales workers spend "prospecting" for customers may be reduced. E-tailing also facilitates and speeds up the flow of paperwork associated with real-estate, insurance, securities, and other complex transactions.

Online resources (for example, extranets and online conferencing) enable B2B sales workers to obtain more information about clients' needs and to improve communications with buyers and purchasing agents. Automated negotiation software, which determines prices, specifications, and terms of service, reduces or even eliminates the need for sales workers, as do online auctions and other business intermediaries.[11] These same e-business systems also dampen requirements for *purchasing managers, purchasing agents,* and *wholesale and retail buyers.*

Effect on industries and staffing

Table 2 lists industry clusters, industry divisions, and detailed industries that are likely to be most affected by e-business activities.

Infrastructure. Industries that provide the hardware, communication links, software, and knowledge needed for e-business are generally referred to as infrastructure industries.[12] For the purposes of this article, such industries include the following construction, manufacturing, and service industries: the *water, sewer, pipeline, and communications and power line construction* industry (SIC 1623) installs fiber-optic or other cable used for Internet communication networks and constructs other communication facilities for the "information highway." Establishments in *drawing and insulating of nonferrous wire* (SIC 3357) manufacture the cable. The *computer and office equipment* (SIC 357), *communication equipment* (SIC 366), and *electronic components manufacturing* (SIC 367) industries produce computers and related devices, including those through which users access the Internet; communication equipment through which the Internet operates, including switches, routers, hubs, bridges, modems, and servers; and components such as semiconductors and printed circuit boards for use in computers, communication equipment, and instruments. Establishments in the *telephone and cable communications services* industries (SICs 481 and 484) provide voice telephone and data transmission services and video programming via wire (coaxial or fiber cable) or wireless technologies and maintain the communication infrastructure used by e-business. Establishments in *computer services* (SIC 737) provide packaged software programs and numerous business services, including integration

Table 2. Likely effect of e-business activities on output and employment requirements in selected industries

[In thousands]

Industry	Wage and salary employment, 1998	Effect of e-business[1]
All industries	128,008	
Infrastructure:		
Water, sewer, pipeline, and communications and power line construction, SIC 1623	257	Stimulates output and employment needs.
Drawing and insulating of nonferrous wire, SIC 3357	73	Stimulates output and employment needs.
Computer and office equipment, communication equipment, and electronic components manufacturing, SICs 357, 366, and 367	1,321	Stimulates output and employment needs.
Telephone and cable communications services, SICs 481 and 484	1,188	Stimulates output and employment needs.
Computer services, SIC 737	1,599	Stimulates output and employment needs.
Management consulting services, SIC 8742, part of management and public relations services, SIC 874	367	Stimulates output and employment needs.
Sales related:		
Retail trade, except eating and drinking places and nonstore retailers, SICs 52–57 and 59, except 596	14,536	Dampens output and employment needs. Particularly affects marketing and sales workers (52), stock clerks (10), and store managers (about 3). Stimulates need for customer service representatives (0.5).
Catalogue and mail-order houses, SIC 5961	230	Both stimulates and dampens output and employment. Stimulates need for customer service representatives, but dampens need for other sales workers, order clerks, and customer service representatives (estimated at 30 percent for all 3) in catalogue and other activities.
Wholesale trade, SICs 50 and 51	6,831	Dampens output and employment overall. Particularly affects marketing and sales workers (24) and administrative support workers, including clerical (26). Stimulates output and employment in order fulfillment for e-tailing.
Arrangement of passenger transportation, SIC 472	219	Dampens employment needs.
Securities and commodity brokers and dealers, SICs 621 and 622	645	Dampens employment needs. Particularly affects marketing and sales workers (31), and administrative support workers, including clerical (31), but stimulates need for customer service representatives (1).
Insurance carriers, agents, and brokers, SICs 63 and 64	2,344	Dampens employment needs, but stimulates need for customer service representatives (3).
Real-estate agents and managers, SIC 653	1,471	Dampens employment needs. Particularly affects real-estate sales workers (12 percent of industry employment, as well as 245,000 self-employed) and administrative support workers, including clerical (29).
Videotape rental, SIC 784	165	Dampens output and employment needs.
Goods producing, except infrastructure related:		
Construction, SICs 15–17	5,985	Could dampen output and employment needs.
Manufacturing, SICs 20–39 (overall)	18,772	Dampens employment needs.
Publishing, SICs 271–274	779	Dampens employment needs. Particularly affects printing workers (12) and workers handling stock (11). Could stimulate need for writers and other "content" workers (18).
Printing, SICs 275–279	766	Dampens output and employment needs.
Services producing, except infrastructure and sales related:		
Local and long-distance trucking and terminals, SICs 421 and 423	1,579	Stimulates output and employment needs in e-tailing package delivery, but dampens them in other activities.
Public warehousing, SIC 422	166	Stimulates output and employment needs.
U.S. Postal Service, SIC 43	867	Stimulates output and employment needs in e-tailing package delivery, but dampens them in other activities.
Air transportation, SIC 45	1,183	Stimulates output and employment needs in e-tailing package delivery, but dampens them in other activities.
Radio and TV broadcasting, SIC 483	247	Could dampen output and employment needs.
Mailing, reproduction, commercial art and photography, and stenographic services, SIC 733	316	Stimulates output and employment needs in commercial art and photography, but dampens them in other activities.
Depository institutions, SIC 60	2,042	Dampens employment needs. Particularly affects administrative support workers, including clerical (66), but stimulates need for customer service representatives (2).

See footnote at end of table.

Table 2. Continued—Likely effect of e-business activities on output and employment requirements in selected industries

[In thousands]

Industry	Wage and salary employment, 1998	Effect of e-business[1]
Employment agencies, SIC 7361	322	Dampens output and employment needs.
Health services, SIC 80	10,829	Dampens output and employment needs. Particularly affects administrative support workers, including clerical (18).
Education services, SIC 82	11,175	Little or none.

[1] Numbers in parentheses refer to employment in the occupation as a percent of the industry total.

systems design, programming, information retrieval systems, and management of computer facilities. A variety of services for e-business, along with Internet portals, are in this industry.[13] Establishments in *management consulting services* (SIC 8742), part of management and public relations services (SIC 874), provide counsel and assistance to managers of private, nonprofit, and public organizations in many areas, including e-business strategies, integration, and technology development.

The development of infrastructure, including facilities and systems that permit faster transmission of more information and improved software applications and technologies, is critical to making e-business more attractive to potential users and to fostering e-business growth. Such development is expected to stimulate output and employment in infrastructure industries.[14]

Sales related. E-sales have the greatest potential to affect employment in industries with a large proportion of sales workers. For this analysis, sales-related industries are defined as those with at least 20 percent of their employment in marketing and sales occupations.[15] In general, e-sales stimulate the need for workers among pure e-business retailers, while dampening it in industries in which sales and administrative support worker functions are made self-service, are automated, or are shifted to other industries.

Retail trade establishments (SICs 52–57 and 59), except *nonstore retailers* (SIC 596),[16] buy and resell merchandise, generally for personal or household consumption.[17] Most are stores designed to attract walk-in customers and with merchandise displays and a stock of merchandise, but some are warehouses servicing retail chain stores. These brick-and-mortar establishments are distinguished from pure electronic commerce operations. Some also have e-commerce (and catalogue) operations and may be known as "click-and-mortar," or multichannel, establishments. Retail trade establishments are further classified according to the products they sell.[18] Many "click-and-mortar" retailers seamlessly integrate e-business into their store operations. For example, they offer online ordering with the option of picking up or returning merchandise in a store, they place Internet kiosks in stores and connect cash registers to their websites to offer online product information and to permit online orders, and they integrate functions such as advertising, buying merchandise, and maintaining inventory.

E-business should dampen employment needs in this industry. Most e-tailing sales growth will be at the expense of traditional in-store sales. E-tailing permits sales transactions without the need for occupations that accounted for nearly 2 out of 3 retail workers in 1998. These occupations include marketing and sales workers (52 percent)—mostly sales workers, cashiers, and supervisors—stock clerks (10 percent), and store managers (about 3 percent). In contrast, the employment of customer service representatives (only 0.5 percent of workers in retail trade establishments) should be stimulated as they assume some functions formerly handled by sales workers. Operating a website and staffing a "pick-and-pack" warehouse (as opposed to a conventional one) spur the employment of computer specialists and stock clerks, but overall, lower in-store needs should more than offset these gains. Online ordering with in-store pickup (rather than delivery by a courier service) or other variations may have less impact on store employment.

E-tailing also permits partial self-service, as customers obtain product information online before coming to stores or sales offices, so that each sales worker handles more transactions. Furthermore, in-store sales may be lost to pure e-tailers classified in *catalogue and mail-order houses* (SIC 5961).

E-tailing facilitates outsourcing of functions, and therefore output and employment, to other industries. Arrangements include routing orders directly to wholesalers (SICs 50 and 51) or warehouse operators (SIC 422) for fulfillment;[19] outsourcing the operation of a customer service center to business services (SIC 738); and delivery to air or truck transportation firms or the U.S. Postal Service. Online delivery of digitized products eliminates the need for stock clerks, shipping, receiving, and transportation clerks, and truckdrivers. Online sales of computers and motor vehicles could reduce in-store sales to the point that some motor vehicle dealers and computer stores become largely repair facilities; if so, they could be reclassified from retailing to repair services. However, the impact of e-business on motor vehicle dealers is not at all clear.[20]

Establishments in *catalogue and mail-order houses* (SIC 5961), part of *nonstore retailers* (SIC 596), buy and resell mer-

chandise, generally for personal or household consumption.[21] Pure e-commerce (that is, online-only) establishments and those using television commercials (home shopping) are included in this industry, as are establishments of manufacturing firms, located apart from their plants for the purpose of marketing their products online to consumers.[22] Most of these enterprises ship merchandise from a warehouse directly to customers and maintain a telephone customer service (call) center to take orders or assist with online purchases. They may maintain stock for sale or have third parties maintain stock and fill orders. Many traditional cataloguers and mail-order houses entered e-tailing early, because their existing call centers, warehouses, and delivery arrangements were similar to those needed for e-tailing and because their customers were comfortable buying on the basis of pictures and descriptive text.

The sale of goods over the Internet stimulates output and employment needs in both pure e-tailing establishments and the e-tailing component of traditional catalogue and mail-order houses. However, several factors may limit their growth. These establishments face competition from store-based ones (SICs 52–57 and 59, except 596) that have e-tailing operations. In addition, within the industry, some e-tailing sales growth will be at the expense of catalogue and mail-order sales. This shift dampens employment needs, because e-tailing permits ordering and servicing without order clerks, sales and related workers, or customer service representatives (estimated at 30 percent for all three occupations in 1998).[23] However, such a shift also spurs the need for customer service representatives involved with e-tailing purchases. In addition, operating a website stimulates computer and art-related employment, although, on balance, employment losses appear to outweigh gains.[24] On average, a Web transaction costs half as much to process as a catalogue transaction.[25] Employment growth could also be moderated because many pure e-commerce operations outsource customer service and order fulfillment to establishments in other industries.

Establishments in *wholesale trade* (SICs 50 and 51) are intermediaries in the distribution of merchandise. Most provide their customers—retailers, manufacturers, other wholesalers, governments, construction contractors, farms, and other organizations—with goods made by many manufacturers and allow them to devote minimal time and resources to transactions. In addition to selling, these establishments may provide clients with transportation, credit, marketing assistance, technical advice, and installation and repair services. There are three types of wholesalers: (1) wholesale merchants or distributors, which purchase goods from manufacturers and sell the goods to other organizations; (2) wholesale agents, brokers, and exchanges; auction companies; commission merchants; and manufacturers' representatives, which coordinate the sale of goods from one party to another, but seldom take title to or handle the goods in the process; and (3) sales branches and offices of manufacturing firms, located apart from their plants, that market their own products.

In one e-tailing model, wholesale distributors fill orders for online retailers, including ownership of inventory, picking and packing orders, and handling returns. This arrangement stimulates output and employment requirements. However, a number of other changes wrought by e-business should reduce employment requirements. For example, wholesaler-distributors use websites to serve customers, permitting them, like retailers, to operate with fewer marketing and sales workers (24 percent) and fewer administrative support workers (26 percent).[26] In addition, within this industry, online agents, brokers, and business exchanges operate with fewer sales and administrative support workers than do traditional wholesalers. The greater use of online brokers and exchanges may also shift the employment of precision production, craft, and repair workers, as well as operators (including vehicle operators), fabricators, and laborers (30 percent), to other industries.

The *arrangement of passenger transportation* industry (SIC 472) includes travel agencies that furnish travel information and act as agents in selling tours and transportation, rental car services, and lodging services. The industry also has tour operators who arrange and assemble tours for sale through travel agents or who sell on their own account. Airlines' joint-venture online travel websites that are separate from airline operations are in the industry as well.[27]

E-business dampens employment needs in this industry. Online travel information sites of airlines, hotels, government tourism offices, convention and visitor bureaus, and others could reduce the number of people who turn to agents for information. Online travel agencies permit self-service reservations, without the need for travel agents and supervisors (55 percent) or for reservation and transportation ticket agents and travel clerks (10 percent).[28] Online travel agencies also automate some functions performed by other administrative support workers (14 percent).

Securities and commodity brokers and dealers (SICs 621 and 622) buy and sell securities and commodity contracts and provide advice to investors. Traditionally, full-service firms bundled the execution of trades and investment advice into one transaction fee, with advice provided by securities, commodities, and financial services sales workers (registered sales representatives) assigned to specific customers. Discount brokers, who existed before the advent of online sales of securities, allowed customers to place buy or sell orders that were neither solicited nor recommended by sales workers, generally provided less advice, and charged a commission that was discounted from the one charged by full-service brokers. Online brokers are an extension of discount brokers, but are able to offer a vast amount of investment information and advice through their websites and e-mail; these brokers are currently developing the ability to customize their online investment advice.[29] (Full-service brokers also provide account

and market information and research online.)

E-business dampens employment needs in this industry. E-trading permits security sales without the need for marketing and sales workers (31 percent), who are primarily securities, commodities, and financial services sales agents (25 percent). To the extent that transactions entail assistance by customer service representatives (1 percent),[30] employment requirements in this occupation will rise. E-business also permits partial self-service as customers of traditional brokers obtain account, market, and investment information online and then place orders with sales agents (who can handle more customers in this model). E-trading also makes self-service or automates functions of administrative support workers (33 percent), such as brokerage clerks (9 percent) and secretaries (6 percent), who help open accounts, provide information to clients, write up orders, and handle account records.

Insurance carriers (SIC 63) underwrite annuities and insurance policies against various risks, pay benefits, and may also sell their own products. *Insurance agents and brokers* (SIC 64) sell annuities and insurance policies issued by one or more carriers, primarily as independent contractors. Websites of pure e-insurance businesses, as well as those of traditional establishments, permit customers to calculate their insurance needs and design policies, and insurance malls permit customers to fill out just one application, yet receive quotes from a number of companies.

By permitting the sale of routine personal insurance (including auto, homeowner, health, and term life insurance), as well as less complex commercial insurance, without the need for insurance sales agents and brokers (15 percent of industry employment, as well as 114,000 self-employed), e-business dampens employment needs in this industry. Transactions that require assistance from customer service representatives (3 percent) stimulate employment in that occupation. E-business also permits partial self-service, with customers obtaining product information online and then purchasing those products they desire through a sales agent (who can handle more transactions in this model). Websites obtain leads for agents, so the time they spend "prospecting" for customers may decrease.[31] Intranets and extranets reduce the time it takes to conduct business, because agents have faster access to (1) information on products offered by companies they represent, (2) explanations of processes and procedures, (3) downloadable forms, and (4) links to sites with useful information.

Self-service permits customers to file claims, resolve problems, update personal information on policies, request changes in coverage, pay bills, and negotiate other, similar transactions. This reduces the need for both sales agents and administrative support workers (42 percent), including policy processing clerks, claims clerks, and general office clerks.

Real-estate agents and managers (SIC 653) sell, rent, buy, manage, and appraise real estate for others. E-business dampens employment needs in this industry by permitting partial self-service as customers obtain information about neighborhoods, properties, and financing online and then use sales workers to visit properties and complete transactions. This arrangement reduces requirements for agents (12 percent of industry employment, as well as 245,000 self-employed). It also has the potential for online sales with little or no involvement by sales workers, but it is not clear how many buyers would want such a service or whether legal restrictions on signing contracts online can be overcome. Brokers' websites obtain leads for agents, so the time they spend "prospecting" for customers may decrease.

Real-estate transactions are complex, requiring title searches, credit reports, appraisals, inspections, and mortgage agreements. Intranets and extranets facilitate coordinating the process and permit the participants to track the status of transactions. This may raise the productivity of sales and administrative support workers (29 percent), allowing them to handle more transactions.

Videotape rental establishments (SIC 784) rent recorded videotapes and disks for personal or household use. E-business dampens employment needs in this industry. With the existing in-store delivery model, websites permit customers to search inventory, reserve titles, and prepay for rentals. This requires less involvement with customers on the part of counter and rental clerks (68 percent), supervisors (14 percent), and cashiers (7 percent), but creates work retrieving and preparing tapes for pickup. Online delivery of digitized movies (video on demand) eliminates the need for these workers. Industry output levels depend on whether delivery is provided by establishments in this industry or by those in the communications or entertainment industry.[32]

Goods producing. E-business could dampen retail store and office construction as more transactions are conducted online. E-business also could dampen hotel construction because of lower business travel due to more online communication, collaboration, and training.[33] This would affect establishments in *construction* (SICs 15–17) that build these types of structures.

Manufacturing industries (SICs 20–39) include establishments that engage in the mechanical, physical, or chemical transformation of materials, substances, or components (including their assembly) into new products. E-business could dampen employment in this industry. E-business permits build-to-order manufacturing, which allows lower inventory levels of both parts and finished products and helps firms avoid making products that are difficult to sell.[34] This may dampen the need for precision production workers, machine operators, and assemblers, as well as for workers handling stock.

Manufacturers' websites permit self-service or partial self-service operations for their customers' purchasing agents and buyers, who obtain product information and technical materials and who use interactive devices to calculate their product needs. At the same time, online resources enable sales work-

ers to obtain more information about customers and markets and to improve communication with purchasing agents and buyers. Both changes permit sales workers (3 percent) to handle more transactions. Sales through online business exchanges use few or no sales workers, so a shift of transactions to them also lowers employment requirements. In addition, e-business facilitates direct sales from manufacturers to consumers, eliminating the need for workers selling to wholesalers.

Establishments in *publishing* (SICs 271–274) publish, or print as well as publish, newspapers, magazines, books, directories, technical manuals, and other items. Most traditional newspaper and magazine publishers generate revenue from both sales (either through subscriptions or by selling single items) and advertising. Online publishers, with a few exceptions, generate all of their revenue from advertising and from links to retailers.[35]

E-business could dampen employment needs in the publishing industry. The Internet is a new advertising medium. Website and e-mail advertising through Internet service providers, portals, e-tailers, online employment agencies, and other e-businesses, as well as e-mail direct advertising, could draw away advertising from newspapers and magazines.[36] However, e-businesses also place advertising in print media.

Online delivery of publishers' "content" eliminates the need for precision printing workers and printing and binding machine operators (12 percent); shipping and stock clerks; helpers, laborers, and material movers; and truckdrivers (11 percent). Workers who develop content—writers and editors, reporters and correspondents, photographers, artists, and designers (18 percent)—as well as those who sell advertising (15 percent), are less likely to be affected.[37] In fact, because the content of websites is updated more often than that of print media, employment requirements for content workers could increase.[38] To date, print newspaper readership remains high among Internet users, according to a Newspaper Association of America study,[39] but things might change as portable reading device technology improves.

Establishments in the printing industry (SICs 275–279) print books, newspapers, magazines, catalogues, business forms, checkbooks, direct-mail flyers, advertising inserts, directories, and other items. E-business dampens output and employment in this industry. Online delivery of information eliminates the need for printing. However, the net impact on catalogue printing is unclear. Websites can substitute for catalogues, but because sites are passive, some erstwhile pure e-commerce firms are issuing print catalogues to find customers and stimulate sales.[40] E-business also allows marketers to develop individual client profiles, through online questionnaires and customer surveys. This and other technologies permit more narrowly focused mailings, decreasing the need for printing traditional catalogues and direct-mail pieces.[41]

Services-producing, except infrastructure and sales related. Transportation industries move goods (including those shipped by e-tailers), mail, and passengers and provide warehouse services. Establishments in *local and long-distance trucking and terminals* (SICs 421 and 423) handle bulk freight generally weighing more than 100 pounds or are courier services (except by air) that deliver individually addressed letters, parcels, and packages generally weighing under 100 pounds. E-business both stimulates and dampens output and employment in this industry. E-tailing adds to the number of package deliveries, stimulating output and employment requirements in courier services. However, e-tailing eliminates the need for warehouse-to-retail-store bulk shipments, handled either in this industry or in retail or wholesale trade, thereby lowering employment requirements in local and long-distance trucking. Online delivery of documents and digitized goods also dampens employment.

Establishments in *public warehousing* (SIC 422) handle and store goods for others and may also manage inventory; pick, pack, ship, and track single orders; and handle returns. E-business stimulates output and employment requirements in this industry. E-commerce warehousing and fulfillment require specialized equipment, computer systems, and skills. Many e-tailers have neither the resources nor the time to build and operate warehouses, so they turn to warehousing specialists, raising output and employment requirements in public warehousing. However, opinion is divided on whether outsourcing is a good long-term strategy, and some firms are setting up their own warehouses.[42] E-business also facilitates the outsourcing of other activities to warehouses, such as inventory handling and less-than-bulk shipments for build-to-order or just-in-time manufacturing and other supply chain functions.

The *U.S. Postal Service* (SIC 43) delivers letters, documents, periodicals, direct-mail advertising, catalogues, and packages to homes and businesses. E-business both dampens and stimulates output and employment needs in this industry. E-business electronically delivers letters, including bills and payments, documents, direct-mail advertising, and digitized goods, while websites serve as electronic catalogues. Taking the anticipated impact of e-business into account, the Postal Service projects that first-class mail, which covers about two-thirds of institutional costs, will peak in 2002 and then decline at an average annual rate of 2.5 percent a year in fiscal years 2003 through 2008. The Postal Service also projects that the rate of growth of advertising-related mail that is not first class will slow down after 2002. These expected changes should have a dampening effect on employment. As more packages are shipped by Internet retailers, however, the Postal Service projects continued robust growth in priority mail and parcel post, which should have a positive impact on employment requirements.[43]

The *air transportation industry* (SIC 45) consists of passenger and air cargo carriers; air courier services that deliver

individually addressed letters, parcels, and packages (generally weighing under 100 pounds); and airports and related services. E-tailing both stimulates and dampens output and employment needs in this industry. On the one hand, e-business raises the number of package deliveries—spurring output and employment in air courier services. On the other hand, the online delivery of documents and digitized goods has a dampening effect. Both factors particularly affect truckdrivers (14 percent) and helpers, laborers, and (hand) material movers (15 percent), who are concentrated in the sector. Online travel reservations automate the reservation process, eliminating the need for reservation and transportation ticket agents and travel clerks (15 percent). (See also *arrangement of passenger transportation services* (SIC 472) under sales-related industries.) Online training, conferencing, collaboration, and B2B selling dampen the amount of business travel and, therefore, output and employment requirements in passenger carriers.[44]

Establishments in *radio and TV broadcasting* (SIC 483) broadcast programs to the public and derive revenue from advertising. The Internet is a new advertising medium. Website advertising through Internet service providers, portals, e-tailers, and other e-business establishments, as well as e-mail, could draw away advertising from broadcasting,[45] thereby dampening output and employment needs in this industry. However, e-businesses also place advertising with broadcasters.

Establishments in the *mailing* (direct-mail advertising services), *reproduction* (photocopying and duplicating), *commercial art and photography*, and *stenographic services* industries (SIC 733) afford a variety of services to businesses. E-business both dampens and stimulates employment needs in these industries. E-mail direct advertising requires less labor than traditional direct-mail advertising. In addition, e-business-based systems, including those using individual client profiles developed through online questionnaires and surveys, are capable of providing a surfeit of information about customers. These systems permit narrower targeted mailings, which could lower the number of catalogues, inserts, and direct-mail pieces handled. Both factors should result in lower employment requirements in direct-mail advertising services. Online document delivery dampens the need for reproduction and duplication services and, therefore, output and employment. The demand for Web content and advertising spurs output and employment in photographic and commercial art services, but some of this may be at the expense of output and employment generated by content and advertising in print publications.

Depository institutions (SIC 60) include banks, savings institutions, and credit unions, which accept deposits, make loans, service checking and other accounts, issue credit cards, provide financial advice, and sell securities and insurance. Pure electronic banks and most brick-and-mortar banks offer online services, including opening of accounts, payment of bills, transfer of funds, and application, processing, and approval of loans and credit cards.[46] Remote, self-service electronic banking has been available through telephones and automated teller machines since the 1980s, permitting customers to check their account balances, transfer funds between accounts, order checks, and make deposits and withdrawals. This technology has contributed to an overall employment decline of 9 percent between 1988 and 1998.

E-banking dampens employment needs in depository institutions by automating or making self-service functions handled by administrative support workers (66 percent), including tellers, new-account clerks, loan and credit clerks, and general office clerks, and, to some extent, by managers (25 percent), but stimulates the need for customer service representatives (2 percent). E-banks generally operate without branch managers (financial managers). However, some e-banks have set up branches because they are effective in attracting customers; for the same reason, physical banks that offer online services may continue to add branches. Online financial advice and online sales of insurance and securities dampen employment requirements for managers and sales workers.

Employment agencies (SIC 7361) solicit job listings from employers, interview jobseekers, and match their qualifications and skills to those being sought by employers. E-business dampens employment needs in this industry. Job postings on employer websites, e-mail ads to likely candidates, online newspaper classified ads, and job-matching sites operated by educational institutions and professional associations compete with the industry, thereby affecting its output and employment. Within the industry, online employment agencies operate without employment counselors and need fewer administrative support workers.[47]

Health services (SIC 80) includes establishments furnishing medical, surgical, and other health services to persons. Among these establishments are hospitals; nursing homes; offices of physicians, dentists, and other health practitioners; and medical laboratories. E-business dampens output and employment needs in the health services industry. The Internet gives patients access to all types of medical information, as well as access to discussion groups and support communities, permitting the patients to better evaluate their health risks, understand their problems and possible treatments, and manage chronic medical conditions.[48] Patients are being encouraged to assume a greater role in their own health care, and the Internet makes it easier to do so. This turn of events might also contribute to fewer patients using brick-and-mortar medical resources. The Internet also automates or speeds up administrative processes such as the transmission of prescriptions to pharmacies, verification of health insurance coverage, submission and payment of claims, approval for referral to specialists, the entry of information into medical records, the processing of such information, the scheduling of appointments, and similar functions. Together, these dampen the need for administrative support occupations (18 percent), including receptionists, information clerks, and secretaries.[49]

Internet-delivered services provide physicians, dentists, and other clinicians with rapid access to medical records, drug databases, and a vast amount of information on diagnosing and treating medical problems (virtual consultations with specialists), from the examining room or from anywhere, using handheld devices.[50] These services also permit medical practitioners to collaborate from various sites as they view the same data and images. Together, such services could dampen employment needs. Output and employment requirements in the industry also could be dampened as better recordkeeping and a more efficient flow of information lead to less duplicated effort and fewer medical errors.[51]

Establishments in *education services* (SIC 82) provide academic or technical instruction and include elementary and secondary schools, colleges and universities, and business, computer, vocational and technical, and professional and management development schools. Most services are delivered by teachers or instructors, who develop courses; explain, demonstrate, supervise, and direct learning; and encourage and evaluate students. Much education content can be digitized and delivered online and is sometimes referred to as "webucation" or e-learning. Adult and college-level distance learning, through correspondence courses, television, and videotape, have been around for a long time. However, e-learning permits interaction between students and faculty and among students through two-way interactive video, teleconferencing, e-mail, chat rooms, and bulletin boards. E-learning also permits teachers to convey much more information to students, through prerecorded video, multimedia, and libraries of information.

There is little evidence that e-learning will affect the employment of schoolteachers (33 percent), teacher assistants (9 percent), and college and university faculty (8 percent), although it could change their job duties. Teachers in webucation develop courses, arrange for access to resources, act as coaches and monitors, respond to e-mail questions, facilitate online discussions, and assess academic performance—activities similar to those in classroom teaching. A National Education Association survey of the organization's members in higher education found that respondents were concerned that preparing for and teaching a distance-education course would take more time than would preparing for and teaching a traditional course.[52] In traditional classrooms, the use of the Internet may permit less lecturing and more coaching and guiding.[53]

Some e-learning, including employer-sponsored training for specific skills, may be conducted without directly involving teachers. However, the primary employment impact of employer training may occur outside the education industry, as 69 percent of formal employer-provided training is handled by in-house staff.[54] E-learning courses for specific skills may also result in fewer adult education, vocational education, and other teachers (6 percent) if such courses replace classroom learning. To the extent that the availability of these courses attracts students who would otherwise not have taken classroom-based courses, employment requirements may be raised. A similar effect for college-level courses could spur faculty employment.

INDUSTRIES THAT PROVIDE THE HARDWARE, SOFTWARE, COMMUNICATION LINKS, AND KNOW-HOW that underpin e-business activities, in general, are likely to enjoy higher levels of output and employment than would occur in the absence of e-business. Also, e-business stimulates output and employment in the catalogue and mail-order houses industry, in which pure e-tailers are located, and in those parts of the transportation and wholesale trade industries which handle and deliver goods for e-tailers. Much of this stimulus, however, may be at the expense of traditional retailers. In addition, e-business stimulates employment needs, across all industries, for computer-related occupations and for other occupations associated with websites and networks.

Concomitantly, however, this investment in e-business infrastructure should lead to labor-saving efficiencies throughout the economy that *dampen* employment requirements.[55] For instance, e-business sales and administrative transactions require fewer workers, and the online delivery of digitized products eliminates the need for handling and delivery workers. E-business also reduces the amount of time workers in a wide range of occupations spend searching for information and may eliminate some traveling.

This article has sought to identify some ways in which e-business is likely to affect output, output per worker, and employment in selected occupations and industries. As in these pages, the 2000–10 projections will not provide separate numbers for e-business, because existing data systems are not designed to measure e-business employment or output. Although proposed 2002 revisions to the North American Industry Classification System (NAICS) will permit data collection relating to the pure electronic shopping and electronic auction industries,[56] NAICS will continue to classify establishments that provide a combination of electronic shopping and brick-and-mortar shopping with store retailers. Also, all stockbrokers and all travel agents, including those which operate solely online, will continue to be in their respective industries.

E-business is pervasive and increasingly is being integrated into existing activities, with organizations being referred to as "click and mortar" or as "digital" or "e-business" operations. It is unlikely that the impact of e-business on output and employment will ever be fully measured. □

Notes

[1] See Thomas Mesenbourg, Assistant Director for Economic Programs, Bureau of the Census, "Measuring Electronic Business, Definitions, Underlying Concepts, and Measurement Plans," on the Internet at **http://www.census.gov/epcd/www/ebusines.htm**. Computer-mediated networks are electronically linked devices that communicate interactively over network channels. Such devices include computers, personal digital assistants, webTV, Internet-enabled cellular phones, and telephones linked together interactively. Networks include the Internet, intranets, extranets, electronic data interchange networks, and telecommunications networks.

[2] *Ibid.* E-commerce is defined by Mesenbourg as "any transaction completed over a computer-mediated network that involves the transfer of ownership or rights to use goods and services."

[3] B2B includes electronic data interchange (see note 1), which is large and predates commerce on the Internet, but is conducted over private networks, not the Internet.

[4] Examples of establishments dealing with both types of clientele include building material and hardware dealers, stationery and office supply stores, banks, and insurance agents.

[5] Mesenbourg, "Measuring Electronic Business." Because e-commerce consists of sales activities, it is potentially measurable; many of the other e-business activities mentioned may not be measurable.

[6] "Roughly 85 percent of Cisco's 800,000 monthly customer queries are handled via the Web, eliminating the need for thousands of customer-service reps (support specialists)." (See Scott Thurm, "Eating Their Own Dog Food—Internet Builder Cisco Goes Online to Buy, Sell, Hire, Keep Customers Happy," *Wall Street Journal*, Apr. 19, 2000.

[7] See Douglas Braddock, "Occupational employment projections to 2008," *Monthly Labor Review*, November 1999, pp. 51–77, especially table 1, p. 52.

[8] *Ibid.*, p. 53.

[9] In the *Revised 2000 Standard Occupational Classification Manual*, adjustment clerks are subsumed under customer service representatives, whose duties may overlap those of sales representatives, sales clerks, or order clerks. Employers may also report workers who assist e-business customers as working in these occupations.

[10] Among selected e-businesses, the percentage of buyers using customer service ranged from 37.5 percent to less than 10 percent, according to Harris Interactive, Inc. (cited in "Reality Bytes," *Wall Street Journal*, June 5, 2000, p. B8).

[11] *Research Priorities in Electronic Commerce*, report of a National Science Foundation–University of Texas workshop, Jan. 25, 1999; on the Internet at **http://crec.bus.utexas.edu/workshop/ecdraft.html**.

[12] For example, see "Measuring the Internet Economy," Center for Research in Electronic Commerce, the University of Texas at Austin and Cisco Systems, January 2001, pp. 9–17; on the Internet at **www.internetindicators.com** and **internetindic.html**.

[13] Online portals are websites that generate income through advertising fees and charges for links to e-commerce sites.

[14] "Increased use of the Internet and continued expansion of corporate Intranets will be the principal forces driving the demand for computer equipment (and therefore employment) over the next 5 years." (See *U.S. Industry and Trade Outlook: 2000* (New York, the McGraw-Hill Companies and the U.S. Department of Commerce/International Trade Administration, 2000), chapters 27 and 31.) However, employment in SIC 357 is projected to decline by 0.3 percent annually from 1998 to 2008, according to BLS projections, despite a 14.5-percent annual growth in output. (See Allison Thomson, "Industry output and employment projections to 2008," *Monthly Labor Review*, November 1999, pp. 33–50.) The aforecited *U.S. Industry and Trade Outlook: 2000* also discusses the impact of e-business on many other industries.

[15] Automobile rental and leasing, without drivers (SIC 751), also has at least 20 percent, mostly counter and rental clerks, but e-business may not have a major employment impact on that industry. Industries with 10 percent to 19 percent of employment in marketing and sales occupations include radio and TV broadcasting (SIC 483), telephone and cable communications services (SIC 481), publishing (SIC 271), advertising (SIC 731), and miscellaneous business services (SIC 738).

[16] Eating and drinking places (SIC 58), also part of the retail trade group of industries, are much less affected by e-business than are retail stores.

[17] Such establishments may also process or repair products or serve food, but these are subordinate activities.

[18] Major industry groups include building materials, hardware, and garden supplies (SIC 52); general merchandise, including department stores (SIC 53); food establishments, including grocery stores, supermarkets, convenience stores, and specialty stores (SIC 54); automotive dealers and gasoline service stations (SIC 55); apparel and accessories stores (SIC 56); furniture, home furnishings, appliances, and electronics (SIC 57); and miscellaneous establishments, including drugstores, sporting goods stores, bookstores, stores selling stationery and office supplies, jewelry stores, toy stores, and florists (SIC 59, except 596). To date, e-tailing has taken a more significant share of the market in SIC 57, which includes stores that handle computer hardware and software and prerecorded-audio and -video, and in SIC 59.

[19] While Amazon.com has moved to ownership of stock and operation of warehouses, other firms continue to outsource.

[20] The Internet arms potential car buyers with massive amounts of information, and margins on Internet-facilitated purchases are significantly lower than on other purchases. (See Susan Helper and John Paul MacDuffie, "E-volving the Auto Industry: E-Commerce Effects on Consumer and Supplier Relationships"; on the Internet at **http://e-conomy.berkeley.edu/conference-main.htm**.) This suggests that the industry will employ fewer sales workers.

[21] These establishments may also process products, but that function is subordinate to selling.

[22] Proposed changes to the North American Industry Classification System (NAICS) for 2002 would define three separate components of industry group 4541, corresponding to SIC 5961: electronic shopping, electronic auctions, and (catalogue and) mail-order houses. (See "North American Industry Classification System—Update for 2000," Federal Register *Notice*, Apr. 20, 2000; on the Internet at **http://www.census.gov/epcd/www/naics.html**.)

[23] Data are available only for nonstore retailers (SIC 596).

[24] Some jobs would also be lost if fewer or smaller catalogues are used. In the local-delivery grocery store model, delivery is handled in-house, increasing the need for truckdrivers.

[25] Ranjay Gulati and Jason Garino, "Get the Right Mix of Bricks and Clicks," *Harvard Business Review*, May–June 2000, p. 32.

[26] *U.S. Industry and Trade Outlook: 2000*, pp. 41–4 through 41–6.

[27] According to the American Society of Travel Agents, cited in *U.S. Industry and Trade Outlook: 2000*, p. 50–8, retail travel agencies sell 80 percent of all airline tickets, book 90 percent of all cruises, and make 25 percent of all hotel reservations.

[28] Lori Enos, "Report: Corporate Travel Energizing Online Market," *E-commerce Times*, Feb. 8, 2001.

[29] Full-service brokers now allow substantial discounts in commissions to certain individuals, and most also offer online trading. See *On-line Brokerage: Keeping Apace of Cyberspace* (Washington, DC, Securities and Exchange Commission, 2000), pp. 18–19.

[30] Only workers registered with the Securities and Exchange Commission (SEC) may accept telephone orders.

[31] Under a new system with Allstate, agents who work exclusively for the company will earn a 10-percent commission on new business and renewals, but only a 2-percent commission on customers who are obtained via the Internet or the firm's 800 number. (See Barbara Bowers, "Allstate: Major Distribution Shift," *Best's Review Magazine*, May 2000; on the Internet at **http://bestreview.com/2000–05/coverallstate.html**.)

[32] Broadband service is needed to deliver movies. (See Martin Peers, "Video on Demand Arrives—Sort Of," and Anna Wilde Mathews, "Studios Have Their Own Movies-On-Demand Plans," *The Wall Street Journal*, Jan. 29, 2001, p. B1.)

[33] See Bernard Stamler, "Making Face-to-Face Time Possible on the PC," *The New York Times*, E-Commerce Special Edition, Oct. 25, 2000, p. 24.

[34] Helper and MacDuffie, pp. 4–9, 14; and Adrian J. Slywotzky, "The Age of the Choice Board," *Harvard Business Review*, January–February 2000, and "Getting Rid of Guesswork," *Business Week*, Aug. 28, 2000, p. 142.

[35] The NAICS categorizes publishing as an information industry, along with software, motion pictures, music, and broadcasting, while leaving printing within manufacturing.

[36] Jack Myers, "Media engine gathers head of steam," *Advertising Age*, Feb. 14, 2000, p. 1; and "Report: Digital Advertising Set for Rebound," *E-Commerce Times*, Jan. 26, 2001. Since the 1960s, another electronic medium—network television—has reduced the market for evening newspapers and limited their share of advertising expenditures. Classified advertising accounts for more than 40 percent of the newspaper industry's revenue. Advertising on a publishers' website is provided free or at little charge if the ad also appears in the newspaper's printed edition. Newspaper websites also serve as electronic portals, generating revenue through links to other sites. (See *U.S. Industry and Trade Outlook: 2000*, pp. 25–3, 25–5, and 25–8. For a discussion of the impact of online employment agencies ("job boards") on newspapers, see David H. Autor, *Wiring the Labor Market*, Working Paper 7959 (Cambridge, MA, National Bureau of Economic Research, 2000). See also John Schwartz, "Marketers Turn to a Simple Tool: E-Mail," *The New York Times*, special section on e-commerce, Dec. 13, 2000; and Bernard Stamler, "You Want Repeat Customers? Try E-Mail," *The New York Times*, technology section, Apr. 18, 2001.)

[37] Producing original content requires not just writers and graphic artists who are employed in the industry, but many of the self-employed as well. (See Nick Wingfield, "Webzines Join Forces to Survive Net Shakeout," *The Wall Street Journal*, July 10, 2000, p. B1.)

[38] Jennifer Greenstein, "The Web Content Conundrum," *The Standard*, June 26, 2000; on the Internet at **http://www.thestandard.net/**.

[39] Rebecca Gardyn, "The Future of Fine Print," *American Demographics*, May 2000, pp. 26–29.

[40] Bob Tedeschi, "Online Retailers Try Printed Catalogues," *The New York Times*, July 10, 2000.

[41] *U.S. Industry and Trade Outlook: 2000*, p. 26–6.

[42] Clare Saliba, "Report: Shipping Costs Bleed E-tailers Dry," *E-Commerce Times*, Feb. 9, 2001. Those outsourcing ownership of inventory as well as warehousing rely on wholesalers. (See note 19.)

[43] "U.S. Postal Service: Challenges to Sustaining Performance Improvements Remain Formidable on the Brink of the 21st Century (General Accounting Office testimony, Oct. 21, 1999, GAO/T-GGD-00–2), pp. 5–7.

[44] Stamler, "Face-to-Face Time"; and Susan Stellin, "Employee Training Without the No-Doz," *The New York Times*, technology section, Apr. 18, 2001.

[45] Myers Group, cited in *Advertising Age*, Feb. 14, 2000; and "Report: Digital Advertising Set for Rebound."

[46] E-banking relies on automated teller machines (ATM's) or mail for deposits and withdrawals.

[47] Data are available only in the aggregate for SIC 736. (See Peter Capelli, "Making the Most of On-line Recruiting," *Harvard Business Review*, March 2001, p. 139.)

[48] For example, patients have access to MEDLINE, a database of information found in medical journals, through the National Library of Medicine of the National Institutes of Health. MEDLINE may be reached on the Internet at **http://www4.infotrieve.com/mewmedline/search.asp** or at **http://www.medportal.com**. (See also *Networking Health: Prescriptions for the Internet* (National Research Council, February 2000), pp. 38, 57–62; on the Internet at **http://stills.nap.edu/books/0309068436/html/**.

[49] *Ibid.*, chapter 2.

[50] *Ibid;* see also MEDLINE, cited in note 48.

[51] *Ibid;* see also Jennifer Steinhauer, "In a Health Revolution, a Hospital's Baby Steps," and Sandeep Juahar, "Residents

Discover a Handy Helpmate," *The New York Times*, e-Commerce Special Edition, Oct. 25, 2000.

[52] Sarah Carr, "Many Professors Are Optimistic on Distance Learning, Survey Says," *The Chronicle of Higher Education*, July 7, 2000, p. A35. (See also David B. Gordon, ed., *The Digital Classroom: How Technology Is Changing the Way We Teach and Learn* (Cambridge, MA, Harvard Education Letter, 2000), p. 57; and Lawrence E. Gladieux and Watson Scott Swail, *The Virtual University & Education Opportunity* (Washington, DC, The College Board, April 1999). Gladieux and Swale state that institutions are likely to find "that online courses are works in progress, requiring ongoing outlays for maintenance, revamping, upgrading, and staff training" (p. 15).)

[53] Kenneth J. Cooper, "Internet at School Is Changing Work of Students—and Teachers," *The Washington Post*, Sept. 5, 2000, p. A2.

[54] The 69-percent figure is from a *Training Magazine* survey in 1997, cited in *U.S. Industry and Trade Outlook: 2000*, p. 49–8. Furthermore, many instructors may be classified as *practitioners* of the subject they are teaching, rather than as teachers.

[55] Including efficiencies in infrastructure industries, in which e-business also *stimulates* employment. (For example, see footnote 6, referring to labor savings at Cisco Systems, a provider of infrastructure hardware.)

[56] There is also a new industry for Internet publishing and broadcasting and for B2B electronic markets. (See note 22.)

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Do some workers have minimum wage careers?

Most workers who begin their careers in minimum-wage jobs eventually gain more experience and move on to higher paying jobs; however, some workers spend substantial portions of their early careers consistently working in minimum wage jobs

William J. Carrington and Bruce C. Fallick

Most minimum wage research has focused on teens and young adults because those groups are most likely to work at minimum wage jobs.[1] This emphasis on young workers is appropriate to the extent that the effects of minimum wages, whatever they may be, are transitory because young workers soon age and move into higher wage jobs. Yet, there is evidence that some older workers who have finished school and have worked in the job market for some time are still earning minimum wages.[2] This article explores whether some workers spend a significant portion of their post-teen, post-school years in—or earn a significant portion of their earnings from—minimum wage jobs. In other words, do some workers have "minimum wage careers"?

There is already a short literature on the amount of time workers spend in minimum wage jobs. For example, a study by Ralph E. Smith and Bruce Vavrichek examined the 1-year earnings mobility of workers that initially worked at minimum wage jobs.[3] They found that 63 percent of the minimum-wage workers in their sample were employed at higher-than-minimum wage jobs 1 year later. Also, Bradley R. Schiller found that "only 15 percent of the 1980 entrants still had any (minimum wage) experience after three years, "which suggests that long-term minimum wage employment is rare.[4] More than three-quarters of Schiller's sample were still attending school while working at their first job, however, and relatively few of the sample workers had embarked on their post-school career.[5]

This article, by contrast, focuses on workers who have finished high school or college, and so presumably embarked on their careers. Using the National Longitudinal Study of Youth 1979 (NLSY79), we follow a large sample of workers after they "permanently" leave school. We find that upon leaving school, the vast majority of workers quickly move into wage ranges well above the minimum wage. Thus, minimum wages have virtually no effect on the careers of most workers. However, we identify a nontrivial fraction of workers that spend substantial portions of their post-school career on minimum or near-minimum wage jobs. For example, we estimate that more than 8 percent of workers spend at least 50 percent of their first 10 post-school years working in jobs paying less than the minimum wage plus $1.00. We find that workers with such minimum wage careers are largely drawn from demographic groups with generally low wages: women, minorities, and the less-educated. Thus, while relatively few in number, there is an identifiable subpopulation of workers whose lifetime income and employment is likely to be associated with minimum wages. For individuals in this group, minimum wages do not have merely transitory effects.

This article places our NLSY79 results in context by examining the incidence of minimum and near-minimum wage jobs among workers in the

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Current Population Survey (CPS). The CPS is beneficial to this study because it provides useful point-in-career or point-in-time estimates of minimum wage jobholders. The large sample size and broad age coverage of the CPS offer useful background information, but its cross-sectional nature lead us to expend most of our efforts on the NLSY79. This article also exploits the longitudinal structure of the NLSY79 to calculate the proportion of workers' early careers spent on minimum wage jobs. It further examines the relative incidence of such minimum wage jobholding across various demographic groups.

Overview from the CPS

Our analysis is centered on the NLSY79 because we need panel data to accurately gauge the presence or absence of minimum wage careers. Before doing so, however, we think it would be useful to take a broader look at the incidence of minimum wage jobs over the life cycle. The outgoing rotation groups from the Current Population Survey provide estimates of hourly wage rates for a very large sample of workers over all age groups.[6] For 1993 and 1994, we extracted information on all workers between the ages of 16 and 65 who we estimated were making at least $1 per hour. We then characterized each worker as having a minimum wage job depending upon whether they were within $.25, $.50, $1.00, or $2.00 of the prevailing minimum wage (that is, the higher of the Federal or the relevant State minimum wage). The top panel of chart 1 graphs the fraction of the employed in each age group characterized as having a minimum wage job under these four criteria.

The top panel of chart 1 indicates that the incidence of minimum wage jobs is very high among teenagers. In 1993 and 1994, roughly 40 percent of 16-year-olds were employed at jobs paying less than the minimum wage plus $.25, and virtually all 16-year-olds reported working at jobs paying less than the minimum wage plus $2.00. In addition, the chart indicates that the incidence of minimum-wage jobholding drops off quickly as workers age. For example, the fraction of 25-year-olds with minimum wage jobs is estimated to be only 5.5 percent for the minimum plus $.25 cutoff, and 14.6 percent for the minimum plus $1.00 cutoff. The chart therefore supports the view that teenagers tend to work at minimum wage jobs, but they move out of minimum wage jobs as they acquire more schooling and experience.

Despite the movement of most young workers into higher paying jobs, chart 1 indicates that aging cohorts leave some workers behind in minimum wage jobs. In particular, chart 1 shows that while the fraction of workers in minimum wage jobs goes down significantly as cohorts age, it never gets to zero. For example, even among workers in their mid-40's, which are the peak earning years for most workers, approximately 2.5 percent are in jobs paying less than the minimum plus $.25, and approximately 8 percent are in jobs paying less than the minimum plus $1.00. What we cannot tell from these cross-sectional data is whether there was a small minority who persistently work at minimum wage jobs or a larger number of persons with a fleeting minimum wage experience. Panel data on workers' careers are needed to address this question.

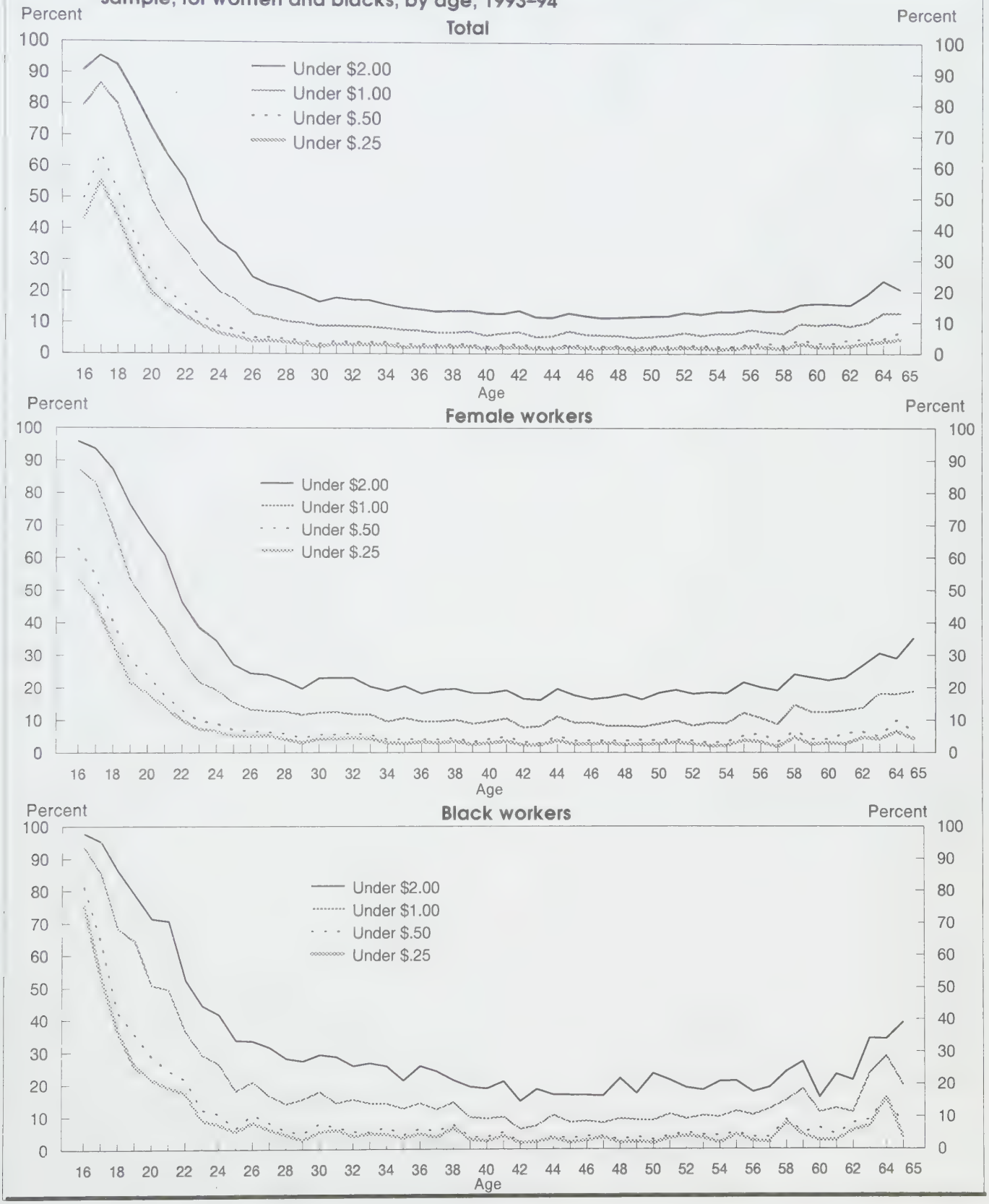
The middle and bottom panels of chart 1 present figures analogous to the top panel, with the exception that the middle panel is based on a sample of women and the bottom panel is based on a sample of blacks. The figures for these two groups are very similar to the aggregate patterns revealed in the top panel. Teenagers are extremely likely to work at minimum or near-minimum wage jobs, but older workers in both groups generally work at higher paying jobs. Comparisons across the panels in the chart show, however, that the incidence of minimum wage jobholding is higher for women and blacks than it is for the population at large. This is not surprising, given that these groups are generally overrepresented in the low-wage labor market. Nevertheless, the chart suggests that some groups may be more likely than others to have truly extended periods of minimum wage employment. Our analysis of the panel data in the NLSY79 will take up this issue in some detail.

Longitudinal analysis of the NLSY79

The National Longitudinal Survey of Youth began in 1979 with 12,686 men and women between the ages of 14 and 22.[7] All members of the sample were born in the years 1957–64, and were living in the United States when they were selected. (Note that persons who immigrated to the United States after 1978 were excluded from the sample.) We restrict our attention to the portion of each respondent's worklife that occurs after they first leave school for a period that will last at least 2 years. Although a few workers may go back to school at some later date, this restriction focuses attention on the portion of individuals' worklife that might be appropriately termed "career" work. In contrast, work before this point is generally stopgap work between periods of schooling, or a source of income in the midst of schooling. There are some NLSY79 respondents for whom we were unable to accurately characterize the first year of career work, largely because of missing data, and we excluded such workers from our analysis. This and other exclusion restrictions naturally raise issues of selectivity. We have no completely satisfactory answer to the question of how sample selection affects our results, but we consider this issue more fully in the appendix at the end of this article.

Our goal is to calculate the fraction of a worker's career that is spent on minimum wage jobs. This goal requires that we accurately characterize a worker's minimum wage status over each year within a career. There are four reasons this may be impossible for some workers in some years. First, there may be no valid wage because the worker went back to

Chart 1. Percentage of workers with hourly wages close to the minimum wage, total sample, for women and blacks, by age, 1993–94



school (after at least a 2-year hiatus), because the worker neither worked nor went to school, or because the information was missing from the interview. Second, we may not know the prevailing minimum wage due to missing information on the worker's state of residence. Third, some workers leave the sample, although MaCurdy, Mroz, and Gritz suggest that this imparts little biases to most measures of labor market activity.[8]

And fourth, the fact that the last year of the NLSY79 we use, 1994, leads to somewhat nonrandom selection when we examine behavior farther out into workers' careers.[9] Recall that the NLSY79 began with persons between the ages of 14 and 22 in 1979. For those who end their education with high school, we almost always have at least 10 years of post-school observations. For persons finishing a college degree at the age of 22, however, we will have 10 years of post-school data for the older NLSY79 respondents, but not for the younger respondents. This reasoning suggests that as we look further out into respondents' careers, the sample becomes increasingly selective with respect to schooling. For example, the sample of workers for whom we have 10 years of post-school data has slightly lower initial schooling than the corresponding sample for whom we have 5 years of post-school data. This selectivity is less acute for the earlier birth cohorts within the NLSY79, because we have many years of post-school data for almost everyone in these cohorts, whereas the selectivity on education is more severe for the later cohorts within the NLSY79. This fact leads us, in some instances, to focus on the earlier birth cohorts to minimize this selectivity.

Table 1 displays some basic attributes of our NLSY79 sample.[10] The table presents summary statistics by "years into career," which is defined as the number of years elapsed since the worker first left school for a period of at least 2 years. The sample is restricted to those workers for whom we could determine their minimum wage status. Looking at the top row of the table first, note that the number of observations included in the sample decreases from 4,322 in the first year of the career down to 3,494 in the tenth year of the career. Again, this occurs because of survey attrition; the younger and more highly educated have not had as many post-school years in the workforce by 1994, and because some persons leave the workforce. This latter phenomenon is partly driven by women who leave the workforce to raise children, as can be seen by the gradually decreasing share of women in the sample as we look further out into people's careers. For example, women account for 48.5 percent of our sample at 1 year into career, but 46.3 percent at 10 years into a career.

For each year into the career of our sample, table 2 reports the fraction of the sample for which the wage is within $.25, $.50, $1.00, $1.50, or $2.00 of the prevailing minimum wage. We have several reasons for defining "minimum wage jobs" in these alternative fashions. The lowest threshold, the minimum wage plus $.25, is our preferred method for characterizing workers currently on a minimum wage job. Given the possibility of misreporting and division bias (hourly wages are sometimes calculated by dividing earnings by reported hours), it seems reasonable to allow for some measurement error in characterizing jobs as minimum wage or not minimum wage. Our interest in the higher thresholds (minimum plus $.50, minimum plus $1.00, and so forth) are motivated in part by measurement error, but also because workers below these higher bands may be affected by the minimum wage in other ways. For example, Jean B. Grossman and David Card and Alan Krueger study the possibility of ripple effects, that is, the minimum wage may result in wage increases for workers slightly above the minimum.[11] As another example, future increases in the minimum wage are likely to be in this range, so it is useful to consider the broader class of workers that might be affected by higher minimum wages that are

Table 1. Sample means of youth in the workforce by years into career

Variable	Years into career[1]					
	1	2	4	6	8	10
Number of observations	4,322	4,066	3,689	3,608	3,552	3,494
Education at this point of career	12.8	12.8	12.9	12.9	13.0	13.0
Age at this point of career	20.1	21.1	23.1	25.1	27.1	29.1
Year of first job	1981.5	1981.5	1981.5	1981.5	1981.5	1981.5
Female =1 (in percent)	48.5	48.9	47.9	46.6	46.5	46.3
Black = 1 (in percent)	12.3	11.9	11.5	11.7	12.0	11.9
Urban =1 (in percent)	79.4	79.0	80.0	78.9	79.1	78.8
Father's education as of 1979 (years)	11.8	11.9	11.9	11.9	11.9	11.8
Mother's education as of 1979 (years)	11.6	11.6	11.7	11.6	11.6	11.6

[1] "Years into career" begin immediately after schooling was completed.

NOTE: Sample for each year restricted to those people for whom we could determine whether or not they were working at a minimum wage job.

SOURCE: All numbers derived from authors' calculations, using the National Longitudinal Survey of Youth 1979.

Table 2. Share of population in minimum or near-minimum wage jobs by years into career

[In percent]

Years into career[1]	Above prevailing minimum wage by no more than—				
	$.25	$.50	$1.00	$1.50	$2.00
1	30.5	38.7	54.5	64.3	72.6
2	23.4	30.2	42.4	52.4	62.0
3	16.7	21.8	31.9	42.0	50.8
4	13.5	17.2	25.6	33.9	42.9
5	10.5	14.0	21.0	28.0	37.0
6	9.2	12.0	17.9	24.2	32.4
7	8.6	10.4	15.8	20.6	27.5
8	7.7	9.5	14.4	18.2	25.2
9	7.3	8.8	12.7	17.1	22.5
10	7.3	8.6	12.2	15.1	20.3

[1] "Years into career" begin immediately after schooling was completed.

SOURCE: Authors' calculations from the National Longitudinal Survey of Youth 1979.

Table 3. Transition rates into and out of minimum wage jobs, by years into career

[In percent]

Transition	Year(t-1) → year(t)								
	1→2	2→3	3→4	4→5	5→6	6→7	7→8	8→9	9→10
Worker holds nonminimum wage job in first year									
1. Probablitity of minimum wage job in second year	10.5	8.4	6.7	5.3	4.7	4.6	4.3	3.8	3.7
2. Probablitity of nonminimum wage job in second year	89.5	91.6	93.3	94.7	95.3	95.4	95.7	96.2	97.3
Worker holds minimum wage job in first year									
3. Probability of minimum wage job in second year	53.6	44.9	42.9	38.4	37.2	44.7	33.7	44.6	46.1
4. Probability of nonminimum wage job in second year	46.4	55.1	57.1	61.6	62.8	55.3	56.3	55.4	53.9

NOTE: A job in year t minimum wage jobs if a person is on a job paying less than the minimum wage plus $.25 in year t, where years are indexed by their position within a person's career.

SOURCE: Authors' calculations from the National Longitudinal Survey of Youth 1979.

within the range of future policy options.

Table 2 indicates that a substantial fraction of workers start their careers on jobs that pay near-minimum wages. For example, roughly 30 percent of workers in our sample held initial jobs within $.25 of the minimum wage, and more than 50 percent of the sample held jobs within $1.00 of the prevailing minimum. Thus, for most workers, their initial jobs pay a wage that might be affected by significant changes in the minimum wage. As workers age, however, they gradually move out of jobs within range of the minimum wage. For example, by the eighth year of their career, less than 8 percent of our sample worked in jobs paying less than the minimum plus $.25, and roughly 14 percent worked in jobs paying less than the minimum plus $1.00. Thus, inexperienced workers disproportionately have minimum wage jobs, however defined.

Table 3 illustrates the evolution of minimum wage exposure from a different angle. If we divide workers into two groups based on whether or not their wages are above the minimum wage plus $.25, then there are four possible transitions that can be made across any pair of years. Rows 1 and 2 of table 3 report the probabilities of being in (row 1) or out of (row 2) a minimum wage job in year t, conditional on having held a job that paid *more* than the minimum wage plus $.25 in year t-1. Rows 3 and 4 report the same probabilities conditional on having held a job that paid *less* than the minimum wage plus $.25 in year t-1. The columns of table 3 examine these transitions across adjacent pairs of years that move farther out into workers' careers as the table moves from left to right. An example of how to interpret the table is that the 10.5 entry under row 1 and the 1→2 column indicates that 10.5 percent of the people with nonminimum wage jobs in the first year of their career went on to hold a minimum wage job in their next year of work.

Row 1 of table 3 indicates that transitions from nonminimum to minimum wage jobs are rare, particularly as workers get further out into their careers. Row 2 shows that the analogous transitions from nonminimum to nonminimum wage sta-

tus are correspondingly high, as of course they must be, because the sum of rows 1 and 2 must be 100 for any column. Thus, once workers find a job above the minimum wage, they rarely go back to lower paying minimum wage work. Rows 3 and 4 report the analogous probabilities for transitions out of minimum wage work. These rows show that the odds of a minimum wage worker finding a nonminimum wage job in the following year are in the 40-percent- to-50-percent range throughout the first 10 years of workers' careers.[12] Thus, workers are much more likely to escape from minimum wage employment than they are likely to fall back into such low wage jobs after an initial period at higher paying jobs. Plugging these transition rates into standard stock-flow identities yields the prediction that minimum wage work becomes increasingly less likely as cohorts age, which is of course what the previous results showed.

These patterns are broadly consistent with the patterns of the incidence of minimum wage jobs by age from the CPS outgoing rotation groups. Note that transitions in the two samples are not directly comparable, as the synthetic panel of the CPS outgoing rotation groups acquires schooling and experience over time, whereas the true panel of the NLSY79 acquires only experience (since they have left school permanently in most cases).[13] Nevertheless, in both samples there is a dramatic transition out of minimum or near-minimum wage jobs as cohorts age. However, is it also true that a significant minority of workers remain in such jobs as they age and gain experience? With the results presented so far, it is not possible to ascertain whether such minimum wage workers represent a stable minority of workers, or whether instead the identity of minimum wage workers changes from year to year. Obviously, the existence of minimum wage careers hinges on the answer to this question.

Table 4 presents information on the fraction of workers' careers spent on minimum wage jobs. The top section of table 4 reports the fraction of the workers first *y* career years spent in

Table 4. Proportion of career spent in minimum or near-minimum wage jobs, by mean, wage-weighted, and real wage-weighted percentages, and by years into career

[In percent]

Years into career[1]	Mean share of years spent above prevailing minimum wage by no more than—				
	$25	$50	$100	$150	$200
1	30.5	38.7	54.5	64.3	72.6
2	26.6	34.0	48.0	57.9	67.0
3	22.2	29.0	41.8	51.8	60.9
4	19.1	25.0	36.7	46.4	55.5
5	16.5	21.7	32.4	41.6	50.5
6	14.6	19.3	29.0	37.5	46.6
7	13.3	17.5	26.4	34.3	42.9
8	12.0	15.8	24.0	31.3	39.7
9	10.9	14.3	21.9	28.7	36.7
10	10.1	13.3	20.4	16.9	34.6
	Wage-weighted proportion of career spent above prevailing minimum wage by no more than—				
	$25	$50	$100	$150	$200
1	30.5	38.7	54.5	64.3	72.6
2	24.3	31.5	45.2	55.1	64.6
3	18.7	25.0	37.3	47.3	56.6
4	15.1	20.3	31.2	40.7	49.8
5	12.4	16.8	26.4	35.1	44.0
6	10.5	14.3	22.7	30.6	39.2
7	9.1	12.5	20.0	27.0	35.2
8	7.8	10.7	17.3	23.7	31.5
9	6.7	9.2	15.2	20.9	28.0
10	6.1	8.3	13.7	18.9	25.7
	Real wage-weighted proportion of career spent above prevailing minimum wage by no more than—				
	$25	$50	$100	$150	$200
1	30.5	38.7	54.5	64.3	72.6
2	24.4	31.6	45.4	55.3	64.7
3	18.9	25.3	37.7	47.7	57.0
4	15.4	20.7	31.8	41.3	50.5
5	12.8	17.3	27.1	35.9	44.8
6	10.9	14.9	23.6	31.6	40.2
7	9.6	13.1	21.0	28.2	36.4
8	8.4	11.4	18.4	25.0	32.8
9	7.3	10.0	16.3	22.3	29.6
10	6.6	9.1	14.9	20.5	27.4

[1] "Years into career" begin immediately after schooling was completed.

SOURCE: Authors' calculations from the National Longitudinal Survey of Youth 1979.

Table 5. Fraction of population spending a percentage of their career in jobs within an amount of the minimum wage

[In percent]

Years into career[1]	Above prevailing minimum wage by $.50			Above prevailing minimum wage by $1.00			Above prevailing minimum wage by $1.50		
	25 percent of career	50 percent of career	75 percent of career	25 percent of career	50 percent of career	75 percent of career	25 percent of career	50 percent of career	75 percent of career
Total sample									
1	38.5	38.5	38.5	54.1	54.1	54.1	63.8	63.8	63.8
2	42.6	42.6	21.2	56.3	56.3	33.8	64.9	64.9	43.7
3	42.5	22.9	10.0	54.8	35.1	18.9	62.0	45.4	27.6
4	40.5	22.8	12.3	51.5	34.3	21.0	58.0	43.5	29.8
5	22.0	12.7	6.1	33.3	21.4	12.4	41.7	29.8	19.3
6	21.1	12.4	3.0	31.5	20.8	7.6	39.6	28.6	12.4
7	20.6	7.0	1.8	30.6	13.3	4.7	38.0	19.7	8.2
8	19.6	7.0	2.1	28.9	13.0	5.1	35.8	19.2	8.5
9	12.1	3.7	1.0	19.6	8.0	3.0	25.8	13.4	5.3
10	11.8	3.8	0.7	18.8	8.3	1.9	24.9	13.2	3.6
Blacks									
1	45.9	45.9	45.9	62.0	62.0	62.0	71.3	71.3	71.3
2	49.1	49.1	28.2	62.7	62.7	41.5	69.4	69.4	52.0
3	45.0	26.8	13.0	56.1	38.5	22.3	61.2	47.9	30.3
4	41.7	25.4	15.8	51.7	37.0	23.6	55.7	44.8	32.5
5	24.5	16.4	8.7	35.4	24.4	15.6	42.2	31.8	23.2
6	24.6	16.6	4.6	34.3	25.0	11.1	40.9	31.3	17.3
7	23.4	10.8	2.6	32.3	17.2	7.5	38.7	24.0	12.3
8	22.7	10.6	3.4	31.3	17.1	8.4	37.2	23.1	13.0
9	14.4	5.7	1.7	21.2	11.3	4.5	27.0	16.2	8.4
10	13.6	5.9	.8	20.1	11.1	2.9	25.4	16.2	6.1
Women									
1	46.5	46.5	46.5	61.9	61.9	61.9	70.6	70.6	70.6
2	50.7	50.7	28.7	63.7	63.7	42.9	71.2	71.2	52.6
3	49.2	29.7	14.7	60.5	43.1	25.6	66.2	52.3	35.5
4	46.6	28.2	16.9	56.2	40.9	27.2	61.2	48.7	36.8
5	27.0	16.6	8.5	38.7	26.8	16.0	46.1	35.4	24.3
6	24.7	15.2	4.6	35.2	24.9	10.2	42.1	32.6	15.2
7	23.9	9.1	2.9	34.1	16.1	6.7	40.1	23.6	10.6
8	22.3	8.8	3.2	31.5	15.3	7.1	37.3	22.7	10.7
9	13.9	5.3	1.5	22.4	9.9	4.2	28.3	15.6	7.1
10	13.4	5.6	1.1	21.1	10.4	2.7	26.8	15.1	4.7

[1] "Years into career" begin immediately after schooling was completed.

SOURCE: Authors' calculations from the National Longitudinal Survey of Youth 1979.

jobs paying less than the minimum wage plus $\$x$. Thus, as an example, the entry in the table where $x = .25$ and "Years into career" equals 6 indicates that the average worker spent 14.6 percent of his or her first 6 career years in jobs that paid less than the prevailing minimum plus $.25. The results indicate that, depending on how we define "near-minimum," a substantial fraction of these cohorts' first 10 years were spent in minimum, or near-minimum wage jobs. For example, the mean worker in this sample spent 29 percent of their first 6 years on jobs paying less than the minimum wage plus $1.00, and 35 percent of their first 10 years on jobs paying less than the minimum wage plus $2.00. Thus, the top panel of table 4 indicates that a substantial portion of most workers' early careers is spent on minimum or near-minimum wage jobs.

The top section of table 4 may overstate the importance of minimum wage jobs by weighting all years equally. If workers can shift resources over the life-cycle, or if intergenerational transfers ease the burden of low income in one's early years, then the salience of minimum wage jobholding would be better measured by weighting years by the wage received. That is, one may be interested in the proportion of a person's career income received in minimum wage jobs. To follow this line of reasoning, the next two sections of table 4 repeat the analysis of the top section with the exception that the fraction of years in minimum wage jobs are weighted by the nominal wage (middle section) or the real wage (bottom section).[14] The table indicates that weighting by either nominal or real wages significantly reduces the importance of minimum wage jobs in the first 10 years of a career. However, there is still a nontrivial fraction of years spent on minimum wage jobs under either metric. For example, the middle section indicates that, when years are weighted by nominal wages, at the mean, workers spends roughly 20 percent of their first 10 career years in jobs paying less than the minimum wage plus $1.50. As a second

example, the bottom section of table 4 indicates that when years are weighted by real wages, workers at the mean spend 10 percent of their first 9 years in jobs paying less than the minimum wage plus $.50.

The data in table 4 indicate that the NLSY79 cohort continued to hold minimum wage jobs as they gained experience, albeit with decreasing frequency. It still remains to be seen whether there is any variation across respondents in the fraction of time spent on minimum wage jobs. Table 5 begins to address this question. In particular, table 5 reports the fraction of the population for whom over Z percent of the first y years of their career are spent working on jobs paying less than the minimum wage plus $\$x$. As an example, the entry where the row for "Years into career" is 5 and the column under "Above prevailing minimum wage by $.50" and "75 percent of career" indicates that 6.1 percent of the sample spent more than 75 percent of their first 5 career years in jobs that paid less than the prevailing minimum plus $.50. As a second example, 25.8 percent of the sample spent at least 25 percent of their first 9 years on jobs that paid less than the minimum plus $1.50.

Table 5 exploits the panel nature of the data to show the extent to which some workers are continually employed in minimum or near-minimum wage jobs. The figures indicate that few workers consistently hold minimum or near-minimum wage jobs. It could hardly be otherwise, given the low incidence of minimum wage jobholding seen in the cross-sectional comparisons of the previous table. There is, however, a non-negligible subset of the population that continues to work at near-minimum wages throughout much of their early career. For example, table 5 indicates that almost 4 percent of the population spends at least 50 percent of their first 9 post-school years working at jobs paying less than the minimum plus $.50. As another example, table 5 indicates that roughly 5 percent of the population spends more than 75 percent of their first 8 post-school years working at jobs paying less than the minimum plus $1.00. For these workers, it is clear that minimum wage policy has potentially long-ranging effects.

It is important to keep the results from earlier tables in mind when interpreting table 5. In particular, although some workers 9 or 10 years into their careers have spent a significant cumulative time on minimum wage jobs, the figures in the top section of table 5 overstate the numbers of workers that are in minimum wage jobs this far out in their careers. That overstatement occurs because most workers accumulate minimum wage job experience most quickly in the first few years of their career. Nevertheless, there are significant fractions of workers in minimum wage jobs after several years of post-school experience have been accumulated. For example, table 2 showed that roughly 8 percent of the population held a job paying less than the minimum plus $.50 at 10 years into their career. Thus, the proportion of workers with "minimum wage careers" will not necessarily go to zero as cohorts age. Some workers remain at minimum wage jobs far into their careers.

Which groups are particularly likely to have such minimum wage careers? It is natural to look at groups with generally low wages, because they are likely overrepresented in the minimum wage population. The middle section in table 5 shows that, like the broader population, few blacks are consistently employed at minimum wage jobs for the duration of their early careers. For example, 11.3 percent of the black population spent at least 50 percent of their first 9 post-school years in jobs paying less than the minimum plus $1.00. As another example, roughly 3.4 percent of the black population spent more than 75 percent of their first 8 post-school years in jobs paying less than the minimum plus $.50. Thus, extended

Table 6. Model of minimum wage careers

Independent variable	Dependent variable=fraction of first selected number of years spent in jobs paying less than the prevailing minimum wage jobs $1.00		
	5 years	8 years	10 years
Intercept	1.676 (.071)	1.339 (.067)	1.150 (0.56)
Age as of this year	−.037 (.004)	−027 (.003)	.022 (.003)
Number of children	−.028 (.004)	−.026 (.007)	−.020 (006)
Female	.109 (.013)	.067 (.013)	.062 (014)
Female, number of children	.070 (.020)	−.049 (.014)	.034 (.011)
Black	.073 (.024)	−.061 (.021)	.053 (.020)
Black, female	−.035 (.037)	−.015 (.033)	−.031 (.032)
Education	−.029 (.005)	−.024 (.004)	−.017 (.004)
Urban	−.049 (.017)	−.039 (.014)	−.039 (.012)
Father's education	−.005 (.002)	−.003 (.002)	−.002 (.002)
Mother's education	−.002 (.003)	−.003 (.067)	−.004 (.002)
Number of observations	2,494	2,132	1,942
R-square	.259	.244	.211

NOTE: Standard errors properly account for the complex survey design of the data.

SOURCE: Authors' calculations based on data from the National Longitudinal Survey of Youth 1979.

Table 7. Model predictions for percentage of first few years in minimum wage jobs for selected years of education

Years and characteristic	Years of education				
First 5 years	8	10	12	14	16
Black–rural–woman	63.0	57.2	51.3	45.5	39.6
White–rural–woman	59.2	53.4	47.5	41.7	35.9
Black–rural–man	52.0	46.2	40.3	34.5	28.7
Black–urban–man	47.1	41.3	35.4	29.6	23.8
White–rural–man	44.7	38.8	33.0	27.1	21.3
White–urban–man	39.7	33.9	28.1	22.2	16.4
First 8 years	Years of education				
	8	10	12	14	16
Black–rural–woman	50.2	45.4	40.7	35.9	31.1
White–rural–woman	45.6	40.8	36.1	31.3	26.5
Black–rural–man	40.7	36.0	31.2	26.5	21.7
Black–urban–man	36.8	32.0	27.3	22.5	17.8
White–rural–man	34.7	29.9	25.1	20.4	15.6
White–urban–man	30.7	25.9	21.2	16.4	11.7
First 10 years	Years of education				
	8	10	12	14	16
Black–rural–woman	40.4	36.9	33.5	30.0	26.6
White–rural–woman	38.2	34.7	31.2	27.8	24.3
Black–rural–man	33.8	30.4	26.9	23.5	20.0
Black–urban–man	30.0	26.5	23.1	19.6	16.2
White–rural–man	28.5	25.1	21.6	18.1	14.7
White–urban–man	24.7	21.2	17.7	14.3	10.8

NOTE: All predictions based on linear regressions reported in table 6.

SOURCE: Authors' calculations based on data from the National Longitudinal Survey of Youth 1979.

exposure to minimum wage jobs is the exception rather than the norm for black workers.

As with the broader population, however, there is a subset of black workers with extended stays in minimum wage jobs. Further, the proportion of black workers in such jobs is substantially higher than that for nonblacks. For example, roughly 13 percent of the black population spent more than 75 percent of their first 8 post-school years on jobs paying less than the minimum plus $1.50, whereas the corresponding figure for the full sample was only 8.5 percent. Thus, blacks are overrepresented in the minimum and near-minimum wage population.

The bottom section of table 5 examines similar shares for women. On this dimension, the labor market experience for women as a group is very similar to that for blacks. True "minimum wage careers" are quite rare among women, as most women spend only a small fraction of their careers on minimum or near-minimum wage jobs. However, women are substantially more likely than men to have extended stays in minimum or near-minimum wage jobs. For example, approximately 4.2 percent of women spend more than 75 percent of their first 9 post-school years working in jobs paying less than the minimum plus $1.00. Again, this is not surprising, given that women are generally overrepresented in the low-wage population.

To conduct a more systematic analysis of the determinants of minimum wage careers, we estimated linear regression models in which the dependent variable was the fraction of time spent on jobs paying less than the minimum wage plus $1.00. The right-hand side variables in this analysis not only included race and sex, but also years of schooling, age, number of children, whether or not the person lived in an urban area, and measures of the father's and mother's education. Table 6 reports the results of this analysis for 5, 8, and 10 years out into a career.[15] The results are broadly consistent with expectations based on general analyses of the wage distribution. For example, being highly educated and living in an urban area are both strongly correlated with *not* having a minimum wage career. In addition, consistent with the preceding tables, blacks and women are more likely than white males to spend significant portions of their career in minimum wage jobs. Fi-

nally, the presence of children is positively correlated with minimum wage job-holding for women, but negatively correlated for men. These relationships are all consistent with previously established patterns of wage variation.

Table 7 presents fitted values for hypothetical workers based on the models of table 6. Predictions are presented for three panels of 5, 8, and 10 years into careers. The rows within each panel vary by race, sex, and urban/rural designation, and each row presents estimates for five different levels of education. All other variables are set to sample means. An example of how to read the table is that the top left entry indicates that the model predicts that a black, rural woman with 8 years of schooling is predicted to have spent 63 percent of her first 5 career years in jobs that paid less than the minimum wage plus $1.00. The models obviously predict that the incidence of minimum wage careers varies dramatically across demographic groups. Rural high-school dropouts, particularly women and blacks, are likely to spend substantial fractions of their careers in minimum wage jobs.

THIS ARTICLE SHOWS that many workers begin their post-school careers in jobs paying the minimum or something close to it, but that the vast majority of workers move on to higher paying jobs as they accumulate experience. However, there is a nontrivial fraction of workers who spend substantial portions of their early careers consistently working in minimum wage jobs. We only examine respondents' first 10 post-school years, so it is possible that further wage growth will take all workers out of minimum wage work as they acquire experience. The fact that wages grow much more quickly in the initial stages of work careers, however, suggests that some workers will continue to be left behind in minimum wage careers. Less educated persons, blacks, women with young children, and workers who reside outside of urban areas are much more likely to have such minimum wage careers. In short, there are particular groups whose lifetime incomes may be affected by a minimum wage. Further research is necessary, however, to see whether these results hold farther out into people's careers and in other time periods. □

Notes

[1] Most research in this area has addressed the effects of the minimum wage on employment. Research on other effects of the minimum wage include work on schooling decisions. See Ronald Ehrenberg and Alan Marcus, "Minimum Wages and Teenagers Enrollment-Employment Outcomes: A Multinomial Logit Model," *Journal of Human Resources*, vol. 17, 1982; Janet Currie and Bruce Fallick, "Minimum Wage Legislation and the Educational Outcomes of Youths: A Re-examination," manuscript (Los Angeles, CA, UCLA, June 1991); David Neumark and William Wascher, "Minimum Wage Effects on Employment and School Enrollment: Evidence from Policy Variation in Schooling Quality and Compulsory Schooling Laws," Federal Reserve Board, Working Paper no. 133, June 1993. For the effects of minimum wage on on-the-job training, see Masanori Hashimoto "Minimum Wage Effects on Training on the Job," *American Economic Review*, vol. 72, no. 5, December 1982, pp. 1070–87. Regarding crime, see George A. Chressanthis and Paul W. Grimes, "Criminal Behavior and Youth in the Labour Market: The Case of the Pernicious Minimum Wage," *Applied Economics*, vol. 22, 1990, pp.1495–1508.

Studies on the major intended benefit, changing the distribution of income in favor of low-income households include: Jere Behrman, Robin Sickles, and Paul Taubman, "The Impact of Minimum Wages on the Distribution of Earnings for Major Race-Sex Groups: A Dynamic Analysis," *American Economic Review*, September 1983; Richard V. Burkhauser and T. Aldrich Finegan, "The Minimum Wage and the Poor: The End of a Relationship," *Journal of Policy Analysis and Management*, Winter 1989, pp. 53–71; William R. Johnson and Edgar K. Browning, "The Distributional and Efficiency Effects of Increasing the Minimum Wage: A Simulation," *American Economic Review*, March 1983; Linda R. Martin and Demettrios Giannaros, "Would a higher minimum wage help poor families headed by women?" *Monthly Labor Review*, August 1990, pp. 33–7; Ralph E. Smith and Bruce Vavrichek, "The minimum wage: its relation to incomes and poverty," *Monthly Labor Review*, June 1987, pp. 24–30; and Gary W. Loveman and Chris Tilly, "Good Jobs or Bad Jobs? Evaluating the American Job Creation Experience," *International Labour Review*, vol. 127, no. 5, 1988, pp. 593–611.

[2] See David Card and Alan Krueger, *Myth and Measurement: the New Economics of the Minimum Wage* (Princeton, NJ, Princeton University Press, 1995). Card and Krueger estimate that more than half the workers affected by the April 1990 minimum wage increase were over the age of 24. This and other facts suggest that some workers might be affected by the minimum wage well into their careers.

[3] Ralph E. Smith and Bruce Vavrichek, "The Wage Mobility of Minimum Wage Workers," *Industrial and Labor Relations Review*, October 1992, pp. 82–88.

[4] Bradley R. Schiller, "Moving Up: The Training and Wage Gains of Minimum-Wage Entrants," *Social Science Quarterly*, September 1994, pp. 622–36.

[5] Recognizing the apparent differences between this group and the members of the sample who were no longer in school in 1980, parts of Schiller's analysis treats the two groups separately. See Schiller, "Moving Up: The Training and Wage Gains."

[6] The term "outgoing rotation group" from the Current Population Survey (CPS) refers to the way earnings data are collected from households in the survey. Participating households are in the CPS sample for 4 months, leave the sample for 8 months, then return to the sample for the same 4 months of the following year. Earnings data are collected from households that are in their fourth or eighth month in the sample, that is, the outgoing groups. In contrast, the NLSY79 is relatively small and focussed on younger workers. The oldest NLSY79 respondent was 36 in 1994, the last year of data examined in our study.

[7] The NLSY79 has five distinct panels: 1) a nationally representative "cross-sectional" sample and four oversampled groups: 2) blacks, 3) Hispanics, 4) economically disadvantaged whites, and 5) members of the military. Following the suggestion of Thomas MaCurdy, Thomas Mroz, and R. Mark Gritz, we exclude the poor whites and the military samples from our analysis. Using the combination of the black, Hispanic, and cross-sectional samples implies that blacks, Hispanics, and other groups are included in the sample with differing probabilities. In such circumstances, survey weights are required to make statements about the aggregate U.S. population. The original NLSY79 weights are inappropriate, however, as they are based on the inclusion of subsamples of the military and poor whites. For this reason, we use the 1979 weights developed by MaCurdy, Mroz, and Gritz, which are designed to make the restricted sample we use nationally representative.

The military sample is omitted because its respondents were generally not followed after 1984, and the economically disadvantaged non-

Hispanic whites were dropped after 1990 because of concerns regarding its sample frame. See Thomas MaCurdy, Thomas Mroz, and R. Mark Gritz, "An Evaluation of the National Longitudinal Survey of Youth," *Journal of Human Resources*, Spring 1998, pp. 345–436.

[8] McCurdy and others, "An Evaluation of the National Longitudinal Survey of Youth," *Journal of Human Resources*.

[9] The NLSY did not interview respondents in 1995, as part of the survey's move to a biennial survey schedule. Surveys were administered again in 1996, but the 2-year gap led the 1996 data to be of limited use in the analysis. The basic problem is that the wage for 1995 must be calculated from the 1996 survey, which is a fairly lengthy recall period that may result in inaccurate wage measurements.

[10] All statistics are calculated using NLSY 1979 sample weights.

[11] The basic idea behind such ripple effects is that raising the price of minimum wage labor may increase demand for close substitutes, and that near-minimum wage labor is likely to be the closest substitute. See Jean B. Grossman, "The Impact of the Minimum Wage on Other Wages," *Journal of Human Resources*, vol. 18, 1983, pp. 359–78; and Card and Krueger, *Myth and Measurement*.

[12] See Ralph E. Smith and Bruce Vavrichek, "The Wage Mobility of Minimum Wage Workers," *Industrial & Labor Relations Review*, October 1992, pp. 82–88. The figures in table 3 are similar to the transition rates that Smith and Vavrichek estimated using the Survey of Income and Program Participation (SIPP).

[13] For any worker, we define the "first career year" to be the first year of the first 2-year period in which they do not go to school. Some workers eventually do go back and obtain further education such as GED's or graduate degrees. Thus, the NLSY panel does acquire some education as they move further out into their career. The acquisition of graduate degrees is probably unimportant from our perspective, because people acquiring such degrees were probably not employed in minimum wage work prior to their return to school. In contrast, the GED may be an important element of workers' escape from minimum wage work.

[14] Price deflators are based on the Consumer Price Index for All Urban Consumers series.

[15] We obtained similar results when we estimated analogous models using a logit specification. In addition, standard errors in table 6 take account of stratification and clustering in the design of the survey.

Appendix: The effects of sample selection and weights on the results

Would our results differ in a fully representative sample? To answer this, we need to address two related factors: sample selection and weighting. We interpret our results as if they accurately portray patterns of minimum wage jobholding in the U.S. population. However, there are two reasons why some original NLSY79 respondents are omitted from the samples on which our estimates are based. The first reason is attrition, that is, the fact that some respondents drop out of the survey. MaCurdy, Mroz, and Gritz provide a set of updated weights that are designed to make latter rounds of the NLSY79 nationally representative.[1] These updated weights are simply the product of the initial Macurdy, Mroz and Gritz weights with the standard attrition adjustments embodied in the standard NLSY weights. We experimented with these latter year weights, and they made very little difference in our results. This finding is consistent with the MaCurdy, Mroz, and Gritz finding that those who leave the sample were not drawn from any one part of the wage or employment distribution. Thus, we do not believe that attrition is a major source of bias in our results.

The second reason why respondents are omitted from our sample is that we cannot accurately characterize their minimum wage experience over their careers. This occurs sometimes because we cannot reliably date the start of respondents' post-school career, but more often, it occurs because respondents did not report a valid wage in 1 or more years, typically because they did not work at all. This implies that our results should be viewed as statements about the incidence of minimum wage careers among the restricted population of workers with stable employment histories. It seems reasonable to suppose that nonworkers, were they to take jobs, would probably have lower wages than those who do work, and thus, that they would have more exposure to minimum wage jobs. This in turn implies that our results might understate the incidence of minimum wage *opportunities* among the broader population of workers and nonworkers. It is also easy to imagine that this type of selection would lead the regressions of table 6 to understate the correlation of some characteristics—race for example—with minimum wage opportunities.

We explored this idea by estimating maximum likelihood versions of Heckman's well-known selection equation.[2] The results vary somewhat depending upon which of the nonsample respondents (those respondents who did not meet all our selection criteria) we include in the first stage probit equation. In all cases we've examined, however, the wage equation of the two-equation Heckman model yields parameter estimates similar to those reported in table 6. One problem with this exercise is that we can identify no reasonable *a priori* exclusion restrictions for the wage equation, so that the selection effect is identified solely on the basis of functional form. Thus, we view this exercise as only a partial answer to whether our results would differ in a fully representative sample.

[1] Thomas MaCurdy, Thomas Mroz, and R. Mark Gritz, "An Evaluation of the National Longitudinal Survey of Youth," *Journal of Human Resources*, Spring 1998, pp. 345–436.

[2] J.J. Heckman, "Sample Selection Bias as a Specification Error," *Econometrica*, 47, 1979, pp. 153–161.

A century of family budgets in the United States

Throughout the past 100 years, family budgets have been produced using a variety of methodologies; these budgets are compared with new budgets that have been derived using actual expenditures of families

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The measurement of family budgets and budget standards dates back to the late 19th century. Such budgets have been used to develop cost-of-living estimates, to assess wage rates, and to examine the standard of living. Early budget standards and family budgets were based on two different methodologies: expert decisions were devised to ascertain how much income a family might require to reach a certain level of living, and estimates were obtained on the actual purchasing behavior of particular families. The first, prescriptive, method was often used to determine the "sufficient" amount needed to provide a "standard of health and decency" or some other measure of the level of living. The second, descriptive, method was often used to describe consumer spending and to determine cost-of-living indexes.[1]

Prescriptive and descriptive types of family budgets were constructed at the Bureau of Labor Statistics throughout most of the 1900s. Prescriptive budgets attempt to determine a set of goods and the expenditures for each of the goods that might enable a family to attain a certain standard of living. These types of budgets were first developed in 1908–09, and there have been many subsequent estimates of fair, modest, adequate, and even minimally sufficient budgets. The BLS family budget program produced budget standards (using a prescriptive method) from 1966 to 1981. Alternatively, descriptive budgets represent observed expenditures for particular families at some point in the distribution of income or expenditures. Each year, BLS produces average expenditures for various family types, which can be viewed as types of descriptive budgets.

This article reviews the historical estimates of these budgets and presents a descriptive budget that is constructed using expenditure data. Inspiration came from results presented by Peter Saunders at the 1998 International Association for Research on Income and Wealth Conference, in which he compared the budget standards in Australia for 1920, 1941–43, and 1997.[2] The article also examines the historical family budgets produced at BLS in 1908–09, 1919, 1947, 1966, and 1979. These are compared with family budgets for 1984, 1989, 1994, and 1998 that were constructed using the recommendations of the Expert Committee on Family Budget Revisions (Expert Committee), which was charged with reviewing and recommending revisions to the BLS family budget program. The article also presents a general description of family budgets and budget standards, reviews the history of family budgets and describes the latest family budget methodology, presents a descriptive family budget, and concludes with a review of the issues associated with adjusting budgets for different family types and locations, and over time.

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Although BLS has budgets that span 90 years, the budgets for the last 50 years share the most similar methodology. Research has found that, in 1998 dollars, the budget based on BLS Consumer Expenditure data for family consumption for a married couple with two children is about $36,550 compared with a budget of $18,210 in 1947 and $13,430 (for a family of five) in 1919. These budgets have increased in real terms; however, they have not increased as much as changes in per capita gross domestic product (GDP), compared with Saunders' results for Australia. While he suggests that this increase represents a general increase in the standard of living, some of the increase could be due to changes in the relative definitions of the terms "modest" or "sufficient."[3]

The standard of living and budget standards

The standard of living can be viewed as the personal pleasure or utility one obtains[4] or as a point on the relative income distribution.[5] Amartya Sen has suggested that the standard of living is "in the living," illustrating its subjective and personal nature. This concept of the standard of living suggests that it is a relative concept, that is, it depends upon one's position in the distribution.

Other researchers have described how these standards of living are related to budget standards, stating: "A budget standard represents what is needed, in a particular place at a particular point in time in order to achieve a specific standard of living."[6] While at least one researcher has suggested that the standard of living can be given by a function, $r(x)$, of the distribution, x,[7] most budget standards have been calculated by building up a budget that would provide families with a modest, fair, or sufficient income. These levels of modest, fair, and sufficient can represent a variety of standards of living, or points on the distribution of income (or well-being).

It has been suggested that there are three types of budget-based (or prescriptive) budget standards: a market basket approach (similar to that used in the former BLS family budgets), a multiplier approach (similar to that used in the official U.S. poverty thresholds), and a categorical approach.[8] Other countries have also produced family budgets using a prescriptive approach.[9] Still other economists have constructed a budget using both prescriptive and descriptive methods and compare it with various State-level estimates of similar family budgets.[10]

In 1978, BLS sponsored an Expert Committee on Family Budget Revisions.[11] The Committee recommended constructing a descriptive budget called the "prevailing family standard" (PFS). This standard reflected "the level of living achieved by the typical family" and was "set at the median expenditure of two-parent families with two children." This was different than the original BLS family budget program in that it "abandon[ed] the notion of a rigidly fixed list of things that are interpretable as minimum needs in achieving a given level of living."

In addition, the Panel on Poverty of the National Research Council did not recommend constructing a budget-based poverty threshold.[12] The Panel recommended a poverty threshold based on a basic bundle of necessities (food, clothing, shelter, and utilities) that was set at a fixed percentage of the median expenditures for these items (and it used a multiplier to account for other items, for example, transportation and personal care).

The difference between the budget-based (or prescriptive) method and the descriptive method arises from the difference between choosing bundles of particular goods that provide a selected standard of living for each of the components individually and choosing a point on the distribution of utility, for example, the median (which could represent a moderate standard of living). This difference can be illustrated by supposing that a moderate standard of living requires a specific bundle of goods. This bundle produces an aggregate utility, and hence, cost. If each good yields the moderate standard, then the aggregate budget also yields a moderate standard. For example, the median of total expenditures might be similar to the sum of the medians for the components. Hence, the aggregate budgets might be fairly similar, while the components of the total budget might differ. In fact, it has been claimed that the budget experts always kept "one good eye on median patterns" in constructing their budgets.[13] The differences between the components for the prescriptive and descriptive approaches would be the result of the norms used by the "experts" to determine the "moderate" standard of living.

History of budgets in the United States

The first standard budgets that the BLS developed were part of an exhaustive study of the conditions of cotton-mill workers in the South and in Fall River, Massachusetts in 1909. The study was the result of a congressional investigation into the condition of women and child workers. These were the first BLS budgets to be expressed in terms of quantities of goods and services to which prices were applied to determine the costs of the budgets (a market-basket approach). These were also the first budgets to define two levels of living—a "minimum standard of living of bare essentials," and a "fair standard of living" that provided some allowances for comfort. BLS Commissioner Charles P. Neill commented: "These standards, it should be emphasized, are the standards found to be actually prevailing among cotton-mill families

Table 1. Family budget and components, 1998 and 1984

Expenditure category	Amount	Percent share	
	1998	1998	1984
Total family budget	$41,487	—	—
Food	6,657	16.0	17.5
Food at home	5,129	12.4	—
Food away from home	1,528	3.7	—
Alcoholic beverages	258	.6	1.2
Housing	14,648	35.3	32.3
Shelter	9,510	22.9	19.4
Owned dwellings	7,849	18.9	15.2
Rented dwellings	1,418	3.4	3.4
Other lodgings	244	.6	.8
Utilities, fuels, and public services	2,958	7.1	7.6
Household operations	876	2.1	2.2
Household furnishings and equipment	1,305	3.1	3.5
Apparel	1,639	4.0	5.2
Transportation	6,697	16.1	15.9
Vehicles	2,685	6.5	4.0
Gasoline and motor oil	1,358	3.3	5.9
Public transportation	260	.6	.3
Health care	1,979	4.8	3.5
Entertainment	2,480	6.0	5.0
Personal care	357	.9	.9
Reading	190	.5	.7
Education	470	1.1	.9
Tobacco	383	.9	1.2
Miscellaneous	769	1.9	1.4
Total family consumption	36,528	88.1	86.3
Personal insurance and pensions	4,483	10.8	11.8
Life and other personal insurance	573	1.4	1.7
Retirement, pension, Social Security	3,910	9.4	10.1
Cash contributions	476	1.1	1.9

of the several communities studied, and are not standards fixed by the judgment either of the investigators or of the Bureau of Labor."[14]

The next BLS budgets were developed at the request of Congress in 1919. World War I brought rapid and sharp increases in price levels that prompted Congress to ask the Bureau to prepare quantity and cost budgets for Government employees in Washington, DC. BLS prepared such budgets for a Government worker's family of five persons and also for single men and single women in Government service. The budgets were described as including "a sufficiency of food, respectable clothing, sanitary housing, and a minimum of essential sundries," but not "many comforts which should be included in a proper 'American standard of living.'"[15] Although BLS priced these budgets only in Washington, DC, Professor William F. Ogburn of the University of Washington adapted the budgets for coal-mining families, and those budgets were priced in a number of communities at the request of the U.S. Bituminous Coal Commission.

In response to the hard times of the depression period of the 1930s, the Works Progress Administration (WPA) proposed two budgets to help determine how much to pay workers in different parts of the country. One budget was described as a maintenance budget, above a minimum assistance level but which did not approach "the content of what may be considered a satisfactory American standard of living."[16] The second budget was described as an emergency budget that was an attempt to show how the maintenance budget could be cut in emergency conditions with the least amount of harm. The budgets were for a family of four, consisting of a man (described as an unskilled manual worker), his wife, a boy aged 13, and a girl aged 8. The budgets were priced in 59 cities. BLS updated the WPA budgets for price increases through 1943.

By the end of World War II, the U.S. economy had improved to the point where norms for maintenance and subsistence levels were no longer as important. Members of Congress expressed some apprehension that employers had, on occasion, used the relief-type budgets as leverage against wage adjustments for "average" workers. Also, Federal income taxes were accounting for an increasing portion of lower level workers' incomes, which raised additional concern. These increases had been implemented as a means of financing the war effort. In the spring of 1945, Congress was thus spurred to request that BLS determine the cost of living for such a worker's family in large U.S. cities.

In order to carry out the mandate set by Congress, BLS appointed a Technical Advisory Committee composed of specialists and technicians recognized as authorities on studies of living costs who would guide the development of standards and methods to be used in the project. The Committee recommended using either scientific standards to derive items and quantities for different components or, when such standards were not available, actual spending patterns based on consumer expenditure surveys. The surveys BLS used in developing the family budget bundles of goods and services dated from 1929 to 1941. BLS derived quantities for the bundles of goods and services and obtained prices to estimate budget costs for 34 U.S. cities.[17] The resultant City Worker's Family Budget for a family of four was described as "modest, but adequate." It applied to urban working families in general and not to a particular occupational group.

Table 2. Historical family budgets for family consumption, 1909–98

Year	Type of budget	Level of living	Budget amount	
			Current dollars	1998 dollars
	Cotton mill worker:			
1908–09	Five person[1]	Fair	$713	$11,077
	District of Columbia Federal worker:			
1919	Five person[1]	Health and decency	2,142	17,346
	BLS family budgets:			
1947	Five person[2]	Modest but adequate	3,329	20,874
1947	Four person[2]	Modest but adequate	2,904	18,209
1951	Four person[3]	Modest but adequate	3,750	20,107
1959	Four person[3]	Modest but adequate	5,180	24,873
1966	Four person[3]	Moderate/Intermediate	7,329	31,593
1973	Four person[4]	Intermediate	9,761	31,380
1979	Four person[5]	Intermediate	15,353	32,280
	Revised Watts budget:			
1979	Four person[5]	Median (PFS)	16,129	33,912
	BLS family budget[6]:			
1981	Four person[6]	Intermediate	18,240	31,545
	Descriptive budget:	Prevailing family standard (PFS)		
1984	Four person[7]	Median	20,531	30,921
1989	Four person[8]	Median	27,143	34,723
1994	Four person[8]	Median	31,817	34,760
1998	Four person[8]	Median	36,528	36,528

[1] Bureau of Labor Statistics, *How American Buying Habits Change*, 1959, table 28.

[2] Bureau of Labor Statistics (1948) *Workers' Budgets in the United States: City Families and Single Persons, 1946 and 1947*, Bulletin 927; 4-person budget for median city (St. Louis); 5-person budget calculated using equivalence scale.

[3] Bureau of Labor Statistics, *City Worker's Family Budget for a Moderate Living Standard*, Bulletin 1570-1, autumn 1966.

[4] USDL, autumn 1973, Urban Family Budgets.

[5] Expert Committee on Family Budget Revisions, "New American Family Budget Standards," IRP Working paper, 1980, p. 62.

[6] "Final report on family budgets, 1981," *Monthly Labor Review*, July 1982, pp. 44–46.

[7] John Rogers, "Estimating Family Budget Standards," BLS manuscript, 1987.

[8] Calculations using 1989, 1994, and 1998 CE data and share of total budget spent on family consumption items.

Estimates of the costs of the four-person family budgets were published for March 1946 and June 1947. The budgets were then repriced each October, from 1949 through 1951. Further updating was ruled out because BLS believed that the bundles of goods and services were out of date and no longer represented the modest but adequate standard. It was anticipated that the 1950 Consumer Expenditure Survey would provide more current information on spending patterns that could be used to revise the budgets. Such a budget, termed the "Interim City Worker's Family Budget" was priced in 20 cities, but not until October 1959.

In 1963, BLS appointed another Advisory Committee to review the family budget methodology and to make recommendations for developing new family budget standards. The Committee was appointed in anticipation of more current expenditure data becoming available from the 1960–61 Consumer Expenditure Survey. The Committee made three primary recommendations in the following order of priority[18]:

1) Continue pricing a modest but adequate budget for a four-person family and for a retired couple. As in earlier budget studies, the Committee recommended that the standards of adequacy were to be based on scientific standards, such as nutrition standards for estimating food items and quantities, and on the judgment of experts based on the analysis of data from expenditure studies.

2) Estimate budget costs for the quantity budget for the total urban population of the United States and for selected cities.

3) Derive additional standard quantity budgets, both below and above the modest but adequate standard.

In addition to the Advisory Committee recommendations, the report included sections which discussed the basic concepts of family budgets and general comments on the meth-

Table 3. Shares of family consumption (for an urban family with one wage earner) using actual expenditures

[In percent]

Component	1917–19	1950	1960–61	1972–73	1986–87
Food	41.1	32.5	26.0	22.6	19.4
Housing	26.8	26.0	29.2	29.3	33.7
Transportation	3.1	13.8	15.1	24.1	25.7
Clothing	17.6	11.6	10.3	8.4	5.2
Health care	4.7	5.1	6.6	4.7	4.0
Other	6.7	11.0	12.8	10.9	12.0

SOURCE: Eva Jacobs and Stephanie Shipp, "How family spending has changed in the U.S.," *Monthly Labor Review*, March 1990, pp. 20–27.

odology for arriving at estimates for some of the budget components. The Committee acknowledged that developing lists of goods and services and specifying quantities that represented a "modest but adequate" standard would require a great deal of subjective judgment as scientific standards existed for only a few of the budget components (primarily food and housing). Even for these components, any number of alternative lists of quantities of goods and services could be specified (and at varying cost) that would meet the scientific standards. For the remaining components, budget makers relied heavily on data from expenditure surveys that showed how budget-type families spent their money.

While the majority of the 1963 Advisory Committee endorsed the idea of developing the lists of goods and services using a mix of scientific standards and standards derived from actual spending patterns, one committee member offered a dissenting view. Dorothy Durand, a private consultant on the development and use of standard budgets, suggested focusing on developing methods for estimating the total cost of a budget, rather than trying to arrive at a total by costing out a list of goods and services. She noted that scientific standards had been established for only a few of the many spending components, primarily food and housing. Even for those few components, she argued that the findings were not definitive. Her dissenting opinion, which broke with the long-established methodology for estimating budget costs, was a precursor of the recommendations of the next advisory committee, whose findings were summarized in a May 1980 report.

Guided by the criteria set forth by the 1963 Technical Advisory Committee, BLS developed budgets for a four-person family and for a retired couple. Budget estimates for a "moderate" living standard were published for autumn 1966 and three standards of living—described simply as lower, intermediate, and higher budgets—were published for spring 1967. The family was described as an employed husband, aged 38; a wife not employed outside the home; and two children, a boy aged 13 and a girl aged 8; it was chosen to "represent a middle stage in the typical family life cycle." However, the report acknowledged the subjective nature of their budgets when it stated: "In short, there is no single answer to the question 'How much does it cost to live?,' since family size, age, and type have a significant effect on spending patterns, manner of living and family needs."[19]

Budget cost estimates were published for 40 urban areas, four regional averages, and a U.S. urban average. As recommended by the Advisory Committee, BLS budget makers used a mix of scientific standards, where available, and standards derived from actual spending patterns to specify lists of goods and services as well as the quantities of those items. Prices collected for the BLS Consumer Price Index, along with some supplementary prices collected specifically for the family budgets, were used with the budget quantities to estimate the budget costs. The budgets were intended to measure equivalent levels of living in the different budget areas. Identical budgets were not priced in the 40 budget areas. The quantity weights were adjusted to account for regional preference or geographical patterns in several categories: for food among regions, for clothing and heating fuels among the cities to account for differing climates, and for automobile ownership and usage; differences were incorporated by city size, to account for availability and use of public transportation.

In 1968, BLS published an equivalence scale that allowed users to apply scale values to the four-person family consumption costs to estimate costs for different family sizes and types.[20] The scale values were estimated using data on food expenditures and income after taxes, for various family sizes and types from the 1960–61 Consumer Expenditure Survey. The last direct pricing of the budgets, that is, the last time that CPI prices and supplementary prices collected specifically for the family budgets were applied to the budget quantities in order to estimate budget costs, was in 1969. Subsequent to 1969, the budget costs were updated annually through 1981, by applying changes in the Consumer Price Index for summary component indexes that were available for each urban area.

By the late 1960s, BLS was increasingly uncomfortable with its role of making the normative judgments that were the basis of the family budget cost estimates. In 1969, BLS Commissioner Geoffrey Moore, wrote: "I do not think the BLS should set itself up as an authority on what is adequate or inadequate, what is a

Table 4. Historical shares of family consumption

[In percent]

Component	BLS family budgets				Descriptive method—Prevailing Family Standard (PFS)		
	1919[1]	1947[2]	1966[3]	1979[4]	1979[5]	1984[6]	1998[7]
Food	36.1	36.4	29.2	32.9	22.6	20.2	18.2
Housing	20.0	24.2	30.2	29.9	33.0	37.4	40.8
Transportation	[1]	9.0	11.1	12.1	20.5	18.4	18.3
Clothing	24.0	14.6	10.3	8.0	7.7	6.0	4.5
Health care	3.7	5.5	6.4	7.7	6.0	4.1	5.4
Other	[1]16.2	10.3	12.7	9.5	10.3	13.9	12.8

[1] Bureau of Labor Statistics, *How American Buying Habits Change*, 1959, table 28; transportation included in "Other."

[2] Bureau of Labor Statistics (1948) *Workers' Budgets in the United States: City Families and Single Persons, 1946 and 1947*, Bulletin 927; 4-person budget for median city (St. Louis).

[3] Bureau of Labor Statistics, *City Worker's Family Budget for a Moderate Living Standard*, Bulletin 1570-1, autumn 1966.

[4] Bureau of Labor Statistics, "Family Budgets," *Monthly Labor Review*, August, 1980, pp. 29 –30.

[5] Expert Committee on Family Budget Revisions, "New American Family Budget Standards," IRP Working paper, 1980, using shares for renters and owners.

[6] John Rogers, "Estimating Family Budget Standards," BLS manuscript, 1987.

[7] Calculations using 1998 CE survey data.

luxury and what is not, etc., no matter how reasonable the position may seem to us."[21] The belief was that such norms should be developed by an operating agency, such as the Department of Health, Education, and Welfare, rather than by a statistical agency such as BLS. However, the Bureau had a long history of developing and publishing family budgets, and much legislation had been passed incorporating the budget estimates, so it continued updating and publishing the series.

By the mid-1970s, the expenditure data used to derive the quantities of goods and services were a decade and a half old. BLS recognized that the budgets were increasingly outdated and began considering alternative methods for estimating budget standards. In 1978, the Bureau contracted with the Wisconsin Institute for Research on Poverty to do a thorough review of the family budget methods and procedures, and to make recommendations for revising the budgets. The Expert Committee on Family Budget Revisions, appointed by the Institute, presented its findings in a comprehensive report in May 1980. Its recommendations are discussed below. However, there was a substantial program reduction required during the fiscal 1981 budget cycle, and BLS did not believe it possessed adequate funding to implement the Expert Committee recommendations nor could it improve the budget estimates to meet the technical standards of the Bureau. The final budget estimates published by BLS were for autumn 1981.

Uses of budgets. Most of the important uses of the family budgets were associated with the cost of attaining the levels specified by the standards. Once the cost of the budgets was determined, the number of people or the proportion of specific groups of people with or without sufficient resources could be estimated. In its 1963 report, the Advisory Committee on Standard Budget Research cited three general groups of uses for the standard budgets. They were:

1) Appraisal of the economic condition of groups or of the total population.

2) Evaluation of the need for and the effect of specific laws and programs.

3) Guidance of administrative determination of need.

BLS published a specific list of uses of the budget standard associated with the budget series between 1966 and 1981. In particular, the Department of Labor continues to use the family budgets (from 1981) to update its guidelines for employment training programs. The Department of Education currently uses the equivalence scales from the family budgets in 1968 to adjust the income protection allowance in its Federal Student Aid calculations.

The Expert Committee cited several factors of the family budget estimates that allowed them to be "used for a wide variety of analytic, administrative, and programmatic purposes. Four elements, in particular, make them conducive to such uses: 1) an income norm or expenditure norm embodying a standard or level of living for a typical family type, 2) a basis for making standardized comparisons among different family types (the equivalence scale), 3) a basis for making comparisons over time, and 4) a basis for making comparisons among areas."[22] These uses are also the most controversial issues in determining the appropriate family budgets.

BLS budget methodology. Throughout the period that the Bureau estimated family budgets, the theoretical basis for them hinged on the belief that scientific standards and expert judgment could be used to derive lists of goods and services and their quantities that embody certain standards of living. Costs of the budgets, and of the standards represented by the budgets, could then be estimated by applying prices to those quantities of goods and services. However, scientific standards existed for only two of the many budget components—food at home and shelter—and even for these components, the scientific standards affected the content but not the actual cost levels in the budgets. For the many other components, including transportation, medical care, clothing, recreation, and education, budget makers were forced to rely on a combination of actual spending patterns and related information, and their own judgment. (See box, p. 10, for a description of methodology used to derive these budget costs.)

Expert Committee recommendations. The Expert Committee on Family Budget Revisions met for a period of a year and a half and presented its findings and recommendations to BLS in a 1980 report. The Expert Committee recommendations called for a radical departure from past practices, such as abandoning attempts to derive detailed lists of goods and services that were intended to represent norms or standards in favor of estimating total budgets directly from expenditure survey data. The Bureau was, at that time, preparing to implement an ongoing Consumer Expenditure Survey that would provide a continuous source of expenditure survey data.

The reasoning behind the Expert Committee's decision to change the methods for estimating the budgets was included in the following excerpt from a December 1980 *Monthly Labor Review* article by Harold Watts (Committee Chairperson):

> The majority of the committee concluded that the main claimed advantage of lists of quantities of goods and services—that such lists assure the meeting of authoritatively established needs—was in fact illusory. Any cost total derived from lists of commodities has perforce been based on a myriad of individual judgments. Consequently, the committee majority, recognizing that a judgment based on individual values and not on scientific requirements must be made at some stage whatever the method used, decided to exercise that judgment in the choice of an expenditure total rather than in several hundred item choices.[23]

The Expert Committee made a number of recommendations to revise the Bureau's Family Budget estimates:

- *Budget levels.* Replace the lower, intermediate, and higher family budgets with four budget levels. The standard designed to reflect the level of living achieved by the typical family would be set at the median expenditure of two-parent families with two children and be called the *Prevailing Family Standard* (PFS). Three additional standards are simply fixed proportions of the PFS: the *lower living standard* is set at two-thirds of the PFS and corresponds to the lower family budget; the *social minimum standard* is set at one-half the PFS and sets a level below which families face issues of deficiency and deprivation; and the *social abundance standard* is set fifty percent higher than the PFS and measures a level that affords a higher standard of living.
- *Equivalence scales.* The Expert Committee spent a great deal of time on estimating equivalence scales but found little success in developing new scales. The equivalence scale estimates included in the summary report were adapted from a set of proposed revised poverty thresholds developed by Mollie Orshansky and Carol Fendler. However, the Committee provided only a weak endorsement of those scales and proposed further research into developing new equivalence scales.
- *Interarea differentials.* The Expert Committee recommended continuing research on cost-of-living differences among cities. It favored producing interarea price indexes to provide price comparisons while recognizing that such indexes show neither the cost of achieving equivalent levels of living in different areas, nor observed expenditure patterns.
- *Method of updating.* The Expert Committee recommended estimating the standards directly from the on-

Table 5. Alternative equivalence scales

Family type	BLS family budgets	Expert Committee	Official poverty scales	Two parameter (F=0.65; P=0.7)	Three parameter
Single adults	0.360	[1]0.540	[1]0.513	0.451	0.463
Two adults	.600	[1].670	[1].660	.708	.653
Two adults, one child	.820	.800	.794	.861	.880
Two adults, two children	1.000	1.000	1.000	1.000	1.000
Two adults, three children	1.116	1.200	1.177	1.129	1.114
One adult, one child	.570	.670	.680	.637	.699
One adult, two children	.760	.800	.794	.797	.830

[1] Uses nonelderly scale.

Components of family budgets

Food at home. The U.S. Department of Agriculture publishes four food plans: the thrifty food plan (TFP), the low-cost food plan (LCFP), the moderate-cost food plan (MCFP), and the liberal food plan (LFP). The low-cost, moderate-cost, and liberal food plans were incorporated in the lower, intermediate, and higher family budgets. All four plans represent a healthy diet, as represented by a food market basket, at various costs for different age-gender groups. All four food plans meet the same nutritional standards for a healthy diet, including standards set in the Dietary Guidelines for Americans. The plans differ by types of foods to achieve a healthy diet and cost. The TFP is a minimal cost diet. TFP foods represent the least expensive foods one can purchase to meet nutritional standards, deviating as little as possible from existing consumption patterns. For the other three food plans, costs were set at approximately the midpoints of the second, third, and fourth quartiles of the distribution of food costs (based on a household food consumption survey). Based on the same nutritional standards and deviating as little as possible from existing consumption patterns at the various cost levels, these three food plans differ in the types of food they contain. The higher cost plans contain more expensive, but nutritionally similar foods.

Shelter. Standards for shelter were developed by the American Public Health Association and the U.S. Public Housing Administration. The standard described sleeping space requirements, essential household equipment (including plumbing), adequate utilities and heat, structural conditions, and neighborhood location. BLS specified that rental and homeowner units included in the budgets had to meet those standards. However, these were minimum standards, intended to prevent the erection or occupancy of unsuitable structures, or to ensure proper maintenance of existing structures, and to provide a guide for contractual arrangements. They were not intended for use in estimating the cost of adequate shelter, such as for the family budgets. As was the case for food, the budget makers relied on actual spending patterns to estimate the budget standards. Rents and market values of homes meeting the physical requirements were arrayed and divided into thirds and the mean values of each third were used in the budgets. For homeowners, the middle and upper thirds were used for the intermediate and higher budgets, while for renters, the rental value for each third was used in the corresponding budget. Total shelter costs in the intermediate and higher budget were weighted averages of homeowner and renter costs, and actual consumption patterns were used in deriving those weights as well. As a result of these estimation procedures, shelter costs in the budgets were well above the level at which the physical standards could be met.

Other components. For the many other components that made up the family budget bundles of goods and services, no scientifically based standards were available. To derive quantities for these other components, the budget makers first relied on a statistical procedure termed the quantity-income-elasticity (q-i-e) technique. For that analysis, expenditure data for major consumption groups were arrayed within family type by income class. The hypothesis underlying the q-i-e technique was that, at the lower end of the income scale, increased spending for items (or groups of items) is a result of increasing the *quantity* purchased of the item. At the higher end of the income scale, increased spending for items is the result of purchasing better *quality* of the item. In theory, the technique would yield an S-shaped curve when quantities and incomes are plotted, with the inflection point marking where families move from purchasing greater quantities of items to purchasing better quality items. This would mark the point at which incomes are sufficient to permit spending on things other than necessities. The quantities of items purchased at that level would be used for the intermediate budget as a standard of adequacy. In practice, the q-i-e technique proved acceptable for only a few components. In many cases, no S-shaped curve with a clear inflection point was found, while for others the point was outside the general range of what were considered acceptable expenditure patterns. Where no suitable estimate could be derived based on the q-i-e technique, the budget makers resorted to deriving the estimates based on prevailing consumption patterns of budget type families. In summary, the methods used to derive the quantities of items in the family budgets are based on a mix of scientifically based standards, actual expenditure patterns of budget type families, and the budget makers own good judgment.

SOURCE: Expert Committee on Family Budget Revisions "New American Family Budget Standards," Institute for Research on Poverty (IRP) Working paper, 1980, pp. 25–34.

Table 6. Comparison of total family budgets, medians *vs.* scales, 1998

Family type	BLS family budgets	Three parameter	Median, by type
Single adults	$14,935	$19,208	$18,376
Married couples	24,892	27,091	32,259
Married couple with two children	41,487	41,487	41,487
Married couple with three children	46,299	46,217	[1]42,025
Single parent with one child	23,648	28,999	[2]21,453
Single parent with two children	31,530	34,434	—

[1] Includes all married couples with four of more children.
[2] Includes single parents with one or two children.

going CE Survey on an annual basis. To guard against short-run variation in median expenditures, however, the norms or standards should be maintained at their previous levels in real terms, should there be nominal declines. This feature was termed a "ratchet." The Consumer Price Index would be used for estimating real expenditures from the prior period and preventing declines in the real levels of the standards.

The Expert Committee also recommended estimating the allocation of expenditures among components by using average allocations estimated from the CE Survey for six different types of families. The Expert Committee also was enthusiastic about the possibility of determining normative standards through a general public survey, such as by asking people how much it takes to just "get along," or to live comfortably. Finally, the Committee recommended that a major report be published presenting the standards and related information, and that it should also include analytical and methodological articles.

BLS recognized that the four-person urban family budgets and retired couple's budgets estimates were based on outdated information and did not represent standards of living typical of the later years (1970s through 1981) during which they were published. While the Bureau took into consideration the Expert Committee's recommendation, this process occurred during a period of tightening budget restrictions that had been imposed on Federal agencies. Consequently, the budget series was discontinued with the final budget estimates published for 1981. BLS has not published family budget standards since then. Even so, the basic standards recommended by the Expert Committee are relatively simple to derive from the current, ongoing CE Survey and some preliminary estimates based on those recommendations are discussed below.

Estimates of descriptive family budgets

Consumer Expenditure Interview Data for 1989, 1994 and 1998 were used to estimate the median total expenditures for the reference family. (They were also compared with estimates from 1984.) The reference family consists of a married couple with two children under the age of 18 living in an urban area. This family is similar to the reference family used by the NRC Panel on Poverty.[24]

The total budget levels for these reference families for 1989, 1994 and 1998 are shown below:

Family type	*Budget for: 1989*	*1994*	*1998*
Married couple, with two related children under 18, who are:			
Living in an urban area			
Total budget	$31,562	$36,571	$41,487
Family consumption only (excludes cash contribution)	27,143	31,817	36,528
Living in either an urban or a rural area			
Total budget	29,933	35,729	39,229
Living in an urban area and is a complete income reporter			
Total budget	32,460	37,186	42,525

This budget represents the prevailing family standard[25] and includes the total outlays for the family (including expenditures on nondurable goods and services and purchase price for durable goods except when financed). For housing and financed vehicles, the mortgage interest *and* principal paid on an owned home or vehicle are included,[26] as are cash contributions, pension contributions, payroll and property taxes. Not included are income taxes and other forms of savings. This represents the total amount of outlays that the family spends for goods and services.

The total budgets are shown for the reference family and, for comparison to earlier years, the budget for family consumption (excluding cash contributions, pensions, and insurance). Also shown is the budget obtained by using both urban and rural families and the budget constructed from a sample restricted to only complete income reporters, which are those households that provide values for at least one major source of income such as wages and salary, self-employment income, and Social Security.[27]

These reference families are predominantly non-black (92 percent) with a reference person who is 38 years old and has more than a high school education (64 percent). These families are predominantly homeowners (79 percent) that have

Table 7. Shares of total budgets for various families, 1998

[In percent]

Component	Married with two children	Married without children	Married with four or more children	Single parents with one or two children	Single nonelderly person
Food	16.0	15.6	17.3	19.0	16.0
Housing	35.3	35.5	39.9	41.5	39.2
Owned dwellings	18.9	15.6	22.6	8.8	7.8
Rented dwellings	3.4	5.4	4.2	16.0	20.0
Utilities	7.1	8.1	7.1	11.2	7.7
Other housing	5.8	6.3	6.0	5.5	3.7
Apparel	4.0	3.7	4.6	5.0	4.0
Transportation	16.1	15.9	15.3	13.5	14.6
Health care	4.8	8.2	4.2	4.0	3.4
Entertainment	6.0	4.8	4.6	3.9	4.7
Other[1]	5.8	5.4	4.5	5.3	8.8
Personal insurance and pensions	10.8	9.0	9.7	7.0	8.6
Cash contributions	1.1	2.0	.1	.8	.7

[1] Includes alcohol, tobacco, personal care, reading, education, and miscellaneous.

an average of 2.4 vehicles.

The reference family was originally chosen because it is the modal family type weighted by persons, that is, more people lived in these types of families than in any other types. In today's society, however, there may be many unmarried couples with children. Hence, the modal family type may consist simply of two adults and two children.[28] Using this more general reference family (consisting of two adults and two children) yields a total budget of $39,870 in 1998, which is slightly lower than that for the married couple reference family.

The components of the budget for 1998 are shown in table 1. These components are calculated by using the expenditure shares of reference families in the middle quintile of total expenditures (outlays) and applying these shares to the median budget shown in the above tabulation.[29] The budget shares in 1998 are compared with those in 1984. In both 1998 and 1984, housing, transportation, and food were the top three expenditure items, accounting for 67.4 percent and 65.7 percent, respectively, of total expenditures, but the budget share of food in 1998 was lower than in 1984.

Among the aggregate expenditure categories, housing registered the largest change in budget allocation, increasing from 32.3 percent in 1984 to 35.3 percent in 1998. The increase in housing expenditures is attributable to the increase of the budget shares of owned dwellings (up by 3.5 percentage points). The next largest increase in the budget share of aggregate expenditure categories was in health care, increasing from 3.5 percent in 1984 to 4.8 percent in 1998.

The largest decrease in aggregate expenditure categories occurred in apparel, falling from 5.2 percent in 1984 to 4.0 percent in 1998. The budget share of tobacco fell from 1.4 percent in 1984 to 0.9 percent in 1998. The budget share of alcoholic beverages fell from 1.2 percent in 1984 to 0.6 percent in 1998.

Historical comparison. The total budgets (in constant and current dollars) are shown for family consumption for various years between 1909 and 1998 (family consumption includes spending on food, clothing, housing, entertainment, transportation, health care and miscellaneous, but does not include spending on contributions, life insurance or pensions). (See table 2, p. 31.) As discussed above, the 1908–09 cotton mill budgets were the first ones developed by BLS and represented a "fair" budget. The 1919 Washington, DC Federal worker budgets represented the budget level for a Federal worker to obtain a "standard of health and decency." The budgets for 1947 and 1951 represent the "modest but adequate" budgets, the budget for 1959 is an updated version of the 1951 budgets, and the BLS family budgets for 1966, 1973, 1979, and 1981 represent the "moderate" or "intermediate" budgets, which are updated for price changes. The revised budgets for 1984, 1989, 1994, and 1998 represent the Prevailing Family Standard (PFS), which is the actual median family consumption for a family of four.

As shown in earlier research results, the 1979 level of the intermediate budget is similar to that of the 1979 prevailing family standard.[30] (Future research proposed should include a reconstruction of these median budgets for 1917–19, 1934–35, 1950–51, 1960–61, 1972–73, and 1980–81.) Similar to the results of the Expert Committee in 1980, the 1973 PFS levels are only slightly higher than the 1973 BLS intermediate family budgets. In addition, the 1961 PFS levels are only slightly higher than the 1959 intermediate budgets adjusted for inflation. Hence, it may be seen that the total budgets obtained by either method yield similar estimates. The components, however, are different.

Using expenditure data from historical CE surveys, researchers have shown that the components of family expenditures have changed dramatically during this century.[31] (See table 3, p. 32). The share of family spending on food and clothing has dropped substantially (the share for both goods fell from 61 percent in 1901 to 25 percent in 1986–87), while the share of spending on transportation and hous-

Table 8. Comparison of interarea indexes (using total family consumption)

Area	BLS family budget program, fall 1981	BLS experimental interarea index, 1989	BLS experimental index shelter, 1995	NRC housing index, 1990[1]
New York City	109	134	122	119
Philadelphia	102	106	103	119
Boston	112	122	114	121
Pittsburgh	97	95	94	97
Buffalo	101	99	96	97
N.Y.C. – Connecticut suburbs	109	128	119	119
N.Y.C. – New Jersey suburbs	109	118	113	119
Chicago	102	108	105	106
Detroit	99	97	98	106
St. Louis	98	94	94	103
Cleveland	102	95	95	106
Minneapolis	97	100	99	103
Milwaukee	102	98	102	99
Cincinnati	100	97	96	99
Kansas City	98	93	94	103
Washington	103	114	104	112
Dallas	95	97	94	100
Baltimore	97	104	100	112
Houston	98	97	93	100
Atlanta	93	105	97	112
Miami	—	99	101	112
Tampa	—	92	93	104
New Orleans	—	104	92	96
San Francisco	107	125	114	122
Seattle	106	108	105	122
San Diego	99	112	108	122
Portland	—	92	101	110
Honolulu	118	116	118	103
Anchorage	127	114	111	102
Denver	99	99	100	100
Greater Los Angeles	100	117	104	122
Los Angeles County	100	117	113	122

[1] Connie F. Citro and Robert T. Michael, eds., *Measuring Poverty: A New Approach* (Washington, National Academy Press, 1995), 194–97.

ing has increased (the housing share increased from 24 percent in 1901 to 34 percent in 1986–87).

Similar results are revealed for the expenditure shares of family consumption (which excludes insurance, pensions and contributions) for various years. (See table 4, p. 33.) There has been a shift away from food and clothing toward housing and transportation. (Since 1984, the increase in the share of housing is mostly due to the increased share of homeowners' shelter costs).

Issues

Family budgets can be used to make comparisons among different family types, among areas, and over time.[32] These uses, though, rely on some of the more controversial assumptions or choices of the family budgets. These issues are similar to those addressed in the literature on measuring poverty thresholds[33]; they include:

- Choosing an equivalence scale to adjust the threshold or budget for differences in household sizes and types.
- Determining a geographical index for differences in prices across geographical areas.
- Updating the thresholds or budgets over time.

Equivalence scales. An equivalence scale is used to adjust the thresholds for differences in household size and composition. There are three approaches to choosing the equivalence scale[34]:

- The analysis of behavior, using the consumption patterns of families to "compute" the scale economies.
- Arbitrary but transparent formulas, using the square root of family size.
- Asking people; using subjective responses related by family size.

All of these methods have problems and there is no consensus on the approach or the actual scale economies. The Watts Commission recommended using a refined version of the revised Orshansky scales. They concluded that no others were demonstrably superior to the originals; despite that, they also claimed their choice merited scant weight.

The NRC panel also concluded that any choice of equivalence scales might be rather arbitrary. It reported that standard methods for using expenditure data to estimate various types of equivalence scales yield many different scales depending on the assumptions made about the measure of well-being, the estimation method, the types of households, and data used in the analyses.[35]

The NRC panel recommended an arbitrary, but transparent formula: the thresholds for household types other than the reference type should be determined using an

equivalence scale that would adjust for the number of adults and children in the household. This two-parameter scale is given by $(A + PK)^F$, where A represents the number of adults and K represents the number of children. The Panel recommended that the scale economy factor, F, be set at either 0.65 or 0.75 and that the parameter P be set at 0.7.

The NRC panel's choice of a two-parameter scale was an attempt to be consistent with the cost-of-children literature and to remove the irregular increases in the scale for larger family sizes. This scale, however, may be inappropriate for childless families. The three-parameter scale attempts to reconcile the differences between singles and childless couples, single-parent and two-parent families, and the cost-of-children literature.[36] Compared with the NRC panel's recommendation, the three-parameter scale assumes more economies of scale between singles and childless couples and more similarity between the scales for families with one parent and two children and two-parent families with one child.

The most recent BLS family budgets used equivalence scales that were derived from differences in food expenditure patterns among different family types. These original scales are compared with three alternative equivalence scales: the one recommended by the Expert Committee, the official poverty scales, a two-parameter scale,[37] and an alternative three-parameter scale.[38] The scales are shown normalized, so that the scale for the reference family is 1.0. (See table 5, p. 34.) The three-parameter scales are flatter than those used in the BLS family budget program. That is, there are more economies of scale between families of different sizes.

The Expert Committee also recommended against using the median family consumption for a wider variety of family types to determine their respective budgets. They believed that some family types—citing elderly singles or couples—do not necessarily enjoy the same high standards as the reference family and that using actual expenditures to estimate standards would merely "validate the status quo." Recently, as an example, researchers have demonstrated that the economic well-being of single parents is much lower than that of married couples.

To show these differences, the median budget for various family types is compared with family budgets obtained using the family budget scales and the three-parameter scales. (See table 6, p. 36.) The first two columns are calculated by multiplying the respective scale shown in table 5 by the total budget of the reference family, whose figure is $41,487. The last column shows the actual median expenditures for the various family types. The median expenditures for single nonelderly families lie between the budgets determined using the scales. The data confirm the observation that single parent families do not enjoy the same standard of living as the reference families. Also illustrated is the reason that the Expert Committee did not recommend using this method. Because single parent families tend to have access to fewer economic resources, their expenditures will be lower than those of other families. Hence, use of the actual expenditures of families may not provide a true estimate of the expenditures required to achieve similar levels of living.

While the total budget levels should not be calculated separately for each family type, the data can be used to compare the shares of the components for each family type. The shares for various components for select family types are shown. (See table 7, p. 37.) Housing and food expenditures amount to 51 percent for the reference family and for the married couple family without children, but 61 percent of total expenditures for single parents with one or two children.

As do other household types, single nonelderly and single parents with one or two children allocate the largest portion of their budget to housing. Unlike the other household types, however, more than 60 percent of their housing expenditures go toward rent and utilities.

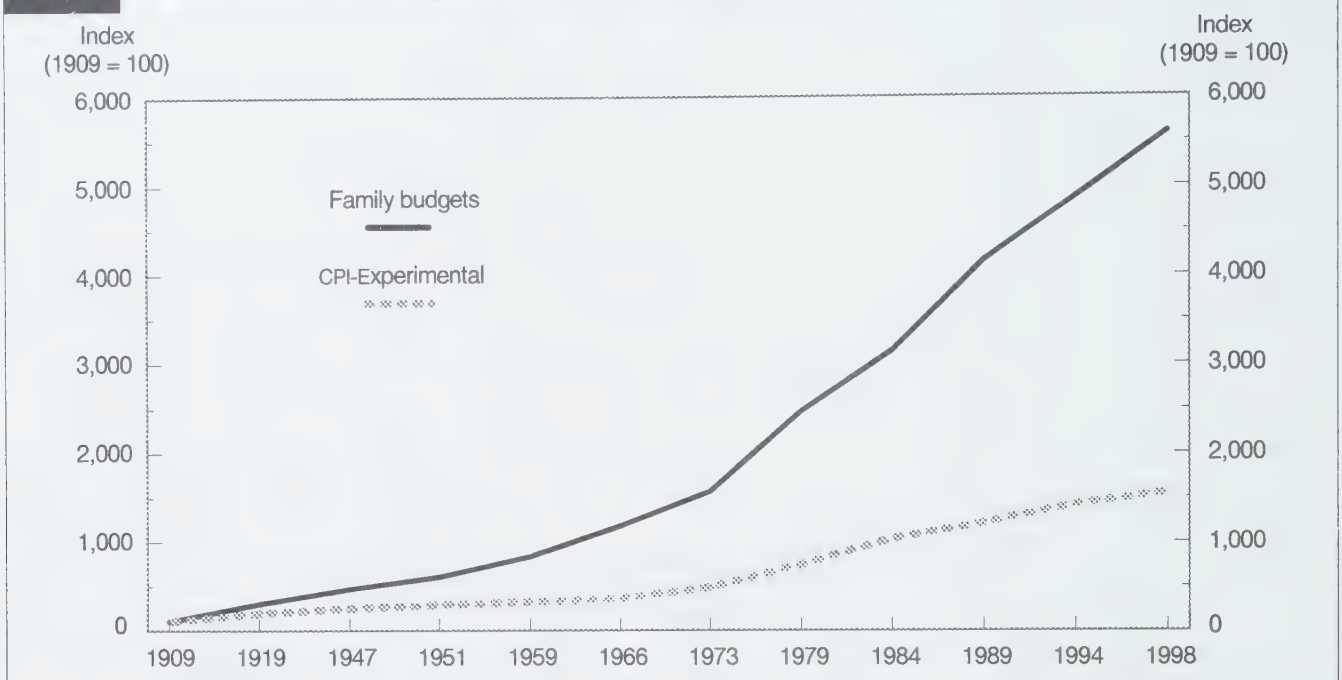
Geographic indexes: adjusting for interarea price differences. The Watts Commission agreed that the budgets ought to be different for different geographic areas, but, as with the equivalence scale findings, their empirical attempts did not produce "consistent and robust findings." The NRC Panel also noted: "there is wide agreement that it is desirable to adjust poverty thresholds for differences in prices...[however]...there are no geographic area cost-of-living indexes that correspond to the CPI."[39] Determining interarea adjustments is one of the

Table 9. Comparison of family budgets and lower living standard income levels for select cities

City	1998 PFS (using 1989 BLS experimental indexes)	Lower level (67 percent of 1998 PFS)[1]	DOL lower living standard income levels, 1998
Philadelphia	$43,679	$29,265	$27,540
Boston	49,523	33,180	29,730
Chicago	44,409	29,754	27,440
St. Louis	39,295	26,328	25,270
Minneapolis	41,487	27,796	25,550
Washington	46,601	31,223	29,810
Atlanta	43,313	29,020	24,870
San Francisco	50,619	33,915	28,800
Anchorage	46,601	31,223	35,430
Los Angeles County	47,697	31,957	28,200

[1]The budget levels are calculated by applying the indexes in table 8 to family consumption ($36,528) and then adding the amount of pensions, life insurance and contributions ($4,959).

Chart 1. Index values for CPI-Experimental and family budgets, 1909–98



NOTE: The CPI-Experimental (CPI-EXP) is calculated using the historical CPI until 1928, the CPI between 1929 and 1947, the CPI-U-XI between 1947 and 1968, and the CPI-U-RS after 1978.

more controversial components of the experimental poverty measure.[40] The following is a comparison of some of these alternative approaches.[41]

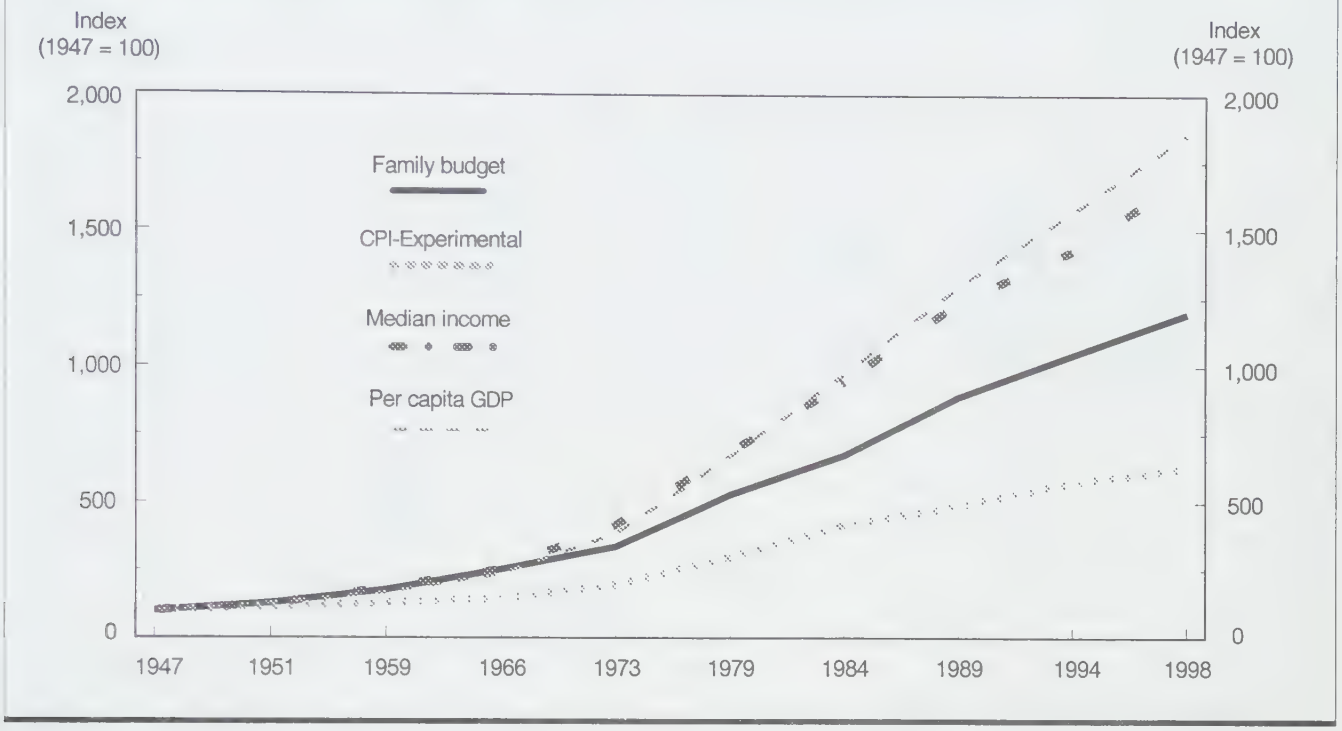
BLS family budget program. Budget cost estimates were published for 40 urban areas, four regional averages, and a U.S. urban average. The budgets were intended to measure equivalent levels of living in the different budget areas; however, identical budgets were not priced in the 40 budget areas. The quantity weights were adjusted to account for regional preference or geographical patterns: for food among regions, for clothing and heating fuels among the cities to account for differing climates, and for automobile ownership and usage; differences were incorporated by city size, to account for availability and use of public transportation.

BLS experimental interarea indexes. In this article, interarea price indexes are constructed using preliminary research conducted at BLS.[42] Researchers used an hedonic methodology and monthly CPI-U price data for July 1988 through June 1989 to produce experimental interarea price indexes; indexes were computed for the 44 CPI publication geographic areas.[43] These experimental interarea price indexes were created at the lowest level of CPI price data available and were aggregated to form index factors for 11 major expenditure categories. The resulting 11 expenditure categories total about 90 percent of the total family consumption budget. Although the interarea price indexes are preliminary and of experimental status, no other suitable data currently are available that can be utilized to estimate interarea price differences.

BLS revised experimental interarea indexes for shelter. In 1995, the shelter indexes were updated.[44] Using similar methods and more recent data, new indexes were created. These new interarea indexes were very similar to the original indexes for shelter (correlation coefficient of 0.98).

NRC Panel on Poverty. The Panel developed an interarea price index for shelter. This index focused on shelter because housing expenditures were the largest component of the Panel's budget and because variations in housing costs are significant across regions and by population size. Using the 1990 decennial census, the Panel used methods similar to those used to produce the fair market rents and computed index values for each of the 341 metropolitan areas. The index values were based on the cost of housing at the 45th percentile of the distribution for each area. The data were then grouped into six population size categories within each of the nine census regions, which produced a final set of 41 index values.

Chart 2. Index values for family budgets, CPI-experimental, median family income, and per capita GDP, 1947–98



These various indexes are shown for the major CPI cities. (See table 8, p. 38.) The indexes are calculated by adjusting the particular expenditure items included in the index and then adding the other components included in total family consumption. For example, the NRC index values were further adjusted for the estimated fraction of the budget accounted for by housing (including utilities), which was set at 44 percent. The NRC indexes are for specific area-size regions, and they are similar for similar sized cities in the same region (such as Los Angeles and San Francisco).

The indexes for many areas are similar across methods. (See table 8, p. 38.) For example, Boston is consistently high for all methods, while Minneapolis is consistently average (around 100). In fact, the rank correlation between the family budget index and the experimental index is fairly high. The correlation between the overall experimental and revised shelter indexes is the highest (at 91 percent).

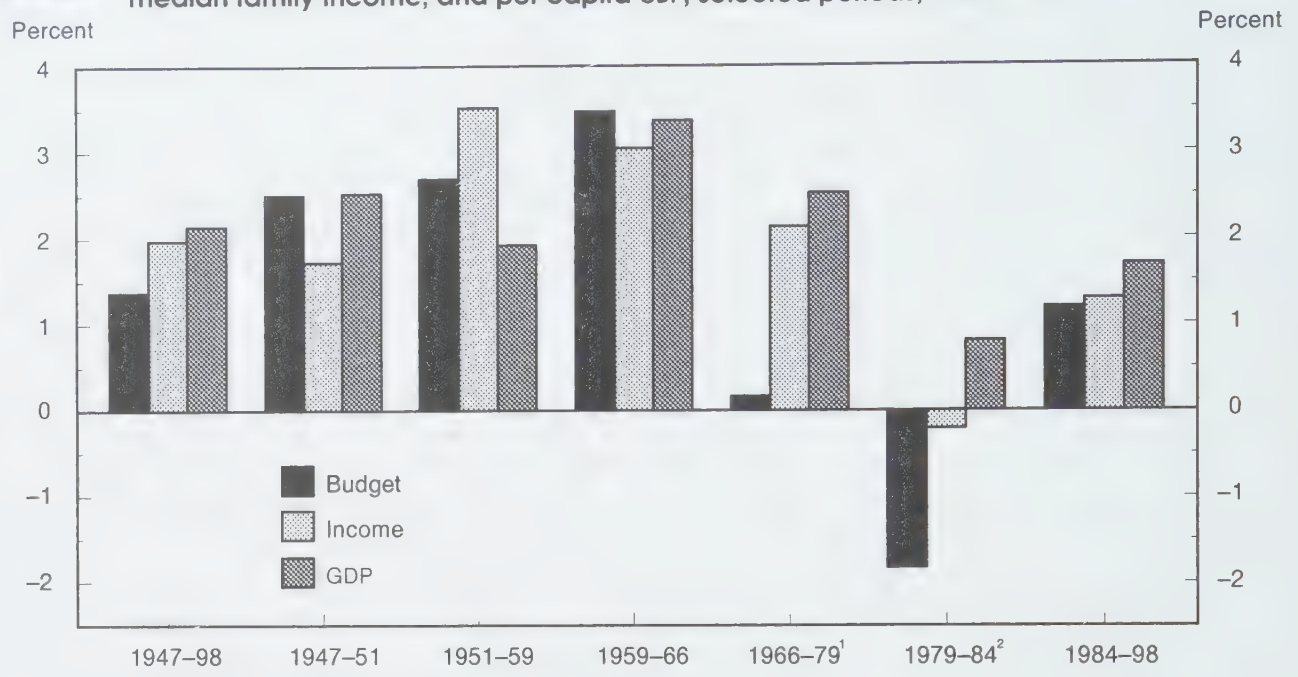
Budgets are compared for particular cities with the budgets used by the Department of Labor in the implementation of the Workforce Investment Act. (See table 9, p. 39.) This act continues to use updated figures from the 1981 BLS family budget program for selected cities to determine the lower living standard income level (LLSIL). These LLSILS are used to determine whether an individual qualifies for job training assistance.

The second half of the table compares these LLSILS with the lower living level, recommended by the Expert Committee, of 67 percent of the PFS. Again, it is shown that either method yields similar budgets for many areas (for example, Philadelphia). In fact, the average LLSILS for the major cities differ by only $300 from the average lower level budget using 67 percent of the median budget.

Updating the budgets over time. The Expert Committee recommended that the standards be updated using the change in the median budget for the reference family as estimated annually using the CE survey data. They intended to use an adjustment factor that increases more than inflation and that would be a more "relative" updating mechanism. Specifically, they proposed that the budgets be updated annually by re-computing the median expenditure of the reference family each year from CE survey data. They also recommended a "ratchet" method, such that, if the change in the median were less than the inflation rate, then the inflation rate would be used to update the budget.

This method is similar to that recommended by the NRC Panel for updating the poverty thresholds. The NRC Panel recommended that the poverty thresholds, once determined, should be updated over time using the change in median expenditures for the basic bundle of goods.[45] The NRC Panel

Chart 3. Real average annual percent changes in family budgets, CPI-experimental, median family income, and per capita GDP, selected periods, 1947–98



[1] 1979 represents the BLS family budget.
[2] 1979 represents the prevailing family budget (PFS).

expected that this updating method would produce thresholds that would increase by more than the inflation rate but by less than the change in per capita Personal Consumption Expenditures. The Panel's motivation came from the observation that the poverty threshold had not increased in real terms, while real median income had increased since the 1960s. The Panel's report showed that the poverty threshold rose less than the change in after-tax median income mainly during the 1960s and early 1970s.[46] The NRC Panel estimated that the elasticity of the basic bundle to total consumption minus health care was 0.65. Others have estimated various elasticities of poverty lines with respect to changes in income.[47]

The key issue is which components of the measure are relative and which are fixed over time. James Foster has claimed that "the key distinction between absolute and relative thresholds is not seen in the specific values at a given date, but in how the values change as the distribution changes."[48] The difference between the changes in the budgets and the changes in the consumer price indexes can be seen. (See table 3, p. 32.) The budget increased much more than the inflation rate and for almost all time periods. The trends in these two series between 1909 and 1998 are shown. (See chart 1, p. 40.) Here, the CPI-EXP is constructed using the CPI-U-RS[49] for 1978–1998, the CPI-U-X1 for 1947–77, the CPI (base 1982–84) for 1929–1947 and the CPI (base 1967)[50] for 1909–1928. This shows that the budget increased 56 fold between 1909 and 1998,[51] while the CPI increased only 16 times (for a real increase of 230 percent). Even during the post-war period of 1947–1998, the budget increased 12 times compared with 6.3 times for the CPI (note this CPI-EXP is lower than the CPI-U; the CPI-U increased 7.3 times during this post-war period.)

To further examine these differences, changes are compared in alternative indexes for 1947–98. The trends in the family budgets, CPI-EXP, median income for a family of four, and the per capita gross domestic product (GDP) are compared. (See chart 2, p. 41.) While the family budgets increased much more rapidly than the inflation rate during this period, they did not increase as much as median income or per capita GDP.

To determine the "true" increase in the standard of living, it must be determined how much of the increase is due to changes in the definition of the "standard" (for example, the difference between a "modest" budget and a "fair" budget) and how much is due to actual changes in the level of a consistent "standard." For the earlier periods, it could be that the fair standard used in 1909 implied a lower standard of living than the "modest but adequate" level used in 1947. For the post-war period, however, it seems reasonable that

the "modest but adequate," "moderate," and "intermediate" levels should have represented similar standards. In fact, the 1966 report (City worker's family budget) claimed that "almost all of the improvement in the real level of living [between 1951 and 1966]...has been reflected in the standard."[52] By showing that the change in the after-tax income for these reference families increased by the same amount as the change in the budget, the report notes that the budget "continues to represent the same relative position on the scale of consumption over the past two decades."

These are still relatively subjective concepts, and their translation into actual dollar figures might be highly variable. Research on subjective measures shows that the interpretations of measures such as "sufficient" and "good" produce dollar amounts that are widely separated.[53] Still other research has revealed an estimate that the average cost level required to obtain a "good" income was higher than that for a "sufficient" income.[54]

The average annual percent changes in real dollars for selected periods between 1947 and 1998 are shown. (See chart 3.) Overall, the budgets increased in real terms during this period. Between 1947 and 1979, the composition of the budgets changed twice (a modest change in 1959, and a more dramatic change in 1966). The composition of the budget changes each year using the PFS method. It may be seen that the real average annual change in the budget between 1947 and 1966 was similar to the change in median income (as suggested above), with a smaller real change between 1947 and 1951. This occurs because the budgets between these years were updated using price changes. Similarly, no real change occurred in the budget between 1966 and 1979; this is because the budgets were simply updated with price changes.

Between 1979 and 1984, the budgets fell in real terms, while median income remained almost unchanged. Some of this may be due to the slightly different methodologies used in calculating the budgets. Finally, between 1984 and 1998 the average annual increase in the budgets was similar to the increases in median income. The elasticity with respect to changes in real income can be calculated.[55] For the entire period between 1947 and 1998, the elasticity of the budget is 0.59. The elasticity is higher for the prescriptive period between 1947 and 1979, with an elasticity of 0.68. Using the descriptive methods presented in this paper, the most recent period (1984–98) yields an elasticity of 0.92.

THE PRODUCTION OF FAMILY BUDGETS and budget standards, which occurred at BLS throughout the last century, has provided a vital, dynamic source of data for numerous studies and research activities. This article has reviewed this history and has used actual expenditure data to construct a descriptive family budget using the methodology as recommended by the Expert Committee in 1980. These budgets are relatively simple to derive from the current, ongoing Consumer Expenditure Survey; they are calculated for 1989, 1994, and 1998 and compared with earlier estimates of 1984. These estimates are also compared with earlier budget standards that were constructed using an alternative budget-based method. These budgets have not increased as much as per capita GDP or median family income.[56] They have, however, increased more than inflation. Over the past 50 years, the increase in real family budgets has an elasticity of about 0.60 with respect to median family income.

Similarly to earlier work, the descriptive budgets derived from the median total expenditures are close to the "expert" budgets that are constructed to provide a "moderate" or "intermediate" standard of living. While it would be inappropriate for a statistical agency such as BLS to make the necessary subjective determinations of the initial level of the family budget (as Commissioner Moore and others have stated), this article has constructed a descriptive family budget without specifying a subjective standard of living. The Expert Committee suggested that these family budgets could be used to compare the level of living among different family types and areas. The results of these comparisons, however, depend on the method used to determine the equivalence scales or interarea indexes. □

Notes

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[2] Peter Saunders, "Household Budgets and Income Distribution Over the Longer-term: Evidence for Australia," paper presented at the 25th General Conference of The International Association for Research on Income and Wealth, August 1998.

[3] Ibid.

[4] Amartya Sen, *The Standard of Living* (Cambridge, Cambridge University Press, 1988).

[5] James E. Foster, "Absolute Versus Relative Poverty," *American Economic Review* (May 1998), pp. 335–41.

[6] Peter Saunders, Jenny Chalmers, Marilyn McHugh, Collete Murray, Michael Bittman and Bruce Bradbury, "Development of Indicative Bud-

get Standards for Australia," Policy Research paper No. 74, Department of Social Security, Canberra, Australia, 1998.

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[9] Saunders, et al., "Development of Indicative Budget Standards for Australia," 1998.

[10] Jared Bernstein, Chauna Brocht and Maggie Spade-Aguilar, *How Much is Enough? Basic family budgets for working families* (Washington, Economic Policy Institute, 2000).

[11] See Harold W. Watts, "Special panel suggests changes in BLS Family Budget Program," *Monthly Labor Review*, December 1980, pp. 3–10.

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[13] Harold W. Watts, "A review of budget-based expenditure norms," comments presented to the NRC Panel of Poverty, spring 1993.

[14] *Report on Conditions of Woman and Child Wage-Earners in the United States*, Vol. XVI, *Family Budgets of Typical Cotton-Mill Workers* (Bureau of Labor, 1911), p. 9.

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[17] Workers' Budgets in the United States: City Families and Single Persons, 1946 and 1947, Bulletin 927 (Bureau of Labor Statistics, 1948).

[18] *Report of the Advisory Committee on Standard Budget Research* (Bureau of Labor Statistics, 1963).

[19] *City Worker's Family Budget for a Moderate Living Standard*, Bulletin 1570-1 (Bureau of Labor Statistics, Autumn 1966), p. v.

[20] *Revised Equivalence Scale for Estimating Equivalent Incomes or Budget Costs by Family Type*, Bulletin No. 1570-2 (Bureau of Labor Statistics, 1968). BLS also included equivalence scale adjustments for the 1947 City Worker's budgets; see *Workers' Budgets in the United States: City Families and Single Persons, 1946 and 1947*, Bulletin 927 (Bureau of Labor Statistics, 1947).

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[22] See Expert Committee on Family Budget Revisions "New American Family Budget Standards," Institute for Research on Poverty (IRP) Working paper, 1980, p. 9.

[23] Watts, "Special panel," p. 8.

[24] Citro and Michael, *Measuring Poverty*.

[25] This is the standard as recommended by Harold W. Watts, "Special panel suggests changes ...," *Monthly Labor Review*, December 1980, pp. 3–10.

[26] The total outlays are used instead of the total expenditures for the consumer unit (see John M. Rogers and Maureen B. Gray, "CE data: quintiles of income versus quintiles of outlays," *Monthly Labor Review*, December 1994, pp. 32–37). The main difference between this measure and the one recommended by the Expert Committee is that the purchase price of vehicle is replaced with the principal payments.

[27] See Expert Committee on Family Budget Revisions, "New American Family Budget Standards," IRP Working paper, 1980. This restriction was used by the Expert Committee and in the budgets constructed by Rogers (1994).

[28] David Johnson, Stephanie Shipp, and Thesia Garner, "Developing Poverty Thresholds Using Expenditure Data," *Proceedings of the Government and Social Statistics Section* (Alexandria, VA, American Statistical Association, August 1997), pp. 28–37.

[29] To compare with earlier studies, the mean personal income taxes also are calculated for reference families in the middle income quintile using the Current Population Survey; the figure is $6,177.

[30] Expert Committee, "New American Family Budget Standards," IRP Working paper, 1980.

[31] Eva Jacobs and Stephanie Shipp, "How family spending has changed in the U.S.," *Monthly Labor Review*, March 1990, pp. 20–27.

[32] Watts, "Special panel suggests changes ...," *Monthly Labor Review*, December 1980, pp. 3–10.

[33] See Citro and Michael, *Measuring Poverty*, p. ?; and Johnson, et al., "Developing Poverty Thresholds ...," *Proceedings of the Government and Social Statistics Section*, pp. 28–37.

[34] Angus Deaton, "Frontiers of Poverty Measurement in Economics," talk given at the Consultation on Values, Norms and Poverty, Johannesburg, South Africa, January 1999.

[35] David Johnson, "The Two-Parameter Equivalence Scale and Inequality Between and Within Households," paper presented at the 1996 General Conference of the International Association for Research in Income and Wealth, August 1996.

[36] David Betson, "Is Everything Relative? The Role of Equivalence Scales in Poverty Measurement," University of Notre Dame, March 1996; and K. Short, Thesia Garner, David Johnson, and Pat Doyle, *Experimental Poverty Measures, 1990–1997*, P60–205 (U.S. Department of Commerce, Bureau of the Census, 1999).

[37] Citro and Michael, *Measuring Poverty*.

[38] Kathleen Short, et al., Experimental Poverty Measures, 1990–1997, P60-205.

[39] Citro and Michael, *Measuring Poverty*, pp. 182–83.

[40] Thomas Corbett, "Poverty: Improving the Measure After Thirty Years, A Conference," *Focus* (Spring 1999); and, also, Gary Burtless, "The Political Consequences of a New Poverty Measure," presented to a conference "Poverty: Improving the Definition after Thirty Years," April 1998.

[41] See also Stephen Malpezzi, "Remarks on Geographic Variation in Housing Prices and the Measurement of Poverty," presented to a conference "Poverty: Improving the Definition after Thirty Years," April 1999, for other possible methods.

[42] Mary F. Kokoski, Patrick Cardiff, and Brent Moulton, "Interarea Price Indices for Consumer Goods and Services: An Hedonic Approach Using CPI Data," Working paper 256 (Bureau of Labor Statistics, 1994. See also Johnson for a similar approach used to adjust poverty thresholds.

[43] The BLS interarea index research is still in progress and the current indexes are of experimental status. They do not reflect official BLS published data.

[44] "Interarea comparisons of compensation and prices," *Report on the American Workforce* (Bureau of Labor Statistics, 1997.)

[45] Citro and Michael, *Measuring Poverty*.

[46] Citro and Michael, *Measuring Poverty*, p. 35.

[47] See the literature review in Gordon Fisher, "Is There Such a Thing as an Absolute Poverty Line Over Time? Evidence from the United States, Britain, Canada, and Australia on the Income Elasticity of the Poverty Line" Poverty Measurement Working paper, U.S. Bureau of the Census,

1995.

[48] Foster, "Absolute Versus Relative Poverty," *American Economic Review*, pp. 335–41.

[49] See Kenneth J. Stewart and Stephen B. Reed, "CPI research series using current methods, 1978–98," *Monthly Labor Review*, (June 1999), pp. 29–38.

[50] *Handbook of Labor Statistics*, Bulletin 1865 (Bureau of Labor Statistics, 1975) p. 313.

[51] The percent changes between 1909–1947 are calculated using the 5 person family budgets, the changes between 1947–1979 are calculated using the BLS family budgets for 4 persons, and the changes between 1979 and 1998 are calculated using the changes in the PFS budgets.

[52] *City Worker's Family Budget for a Moderate Living Standard*, Bulletin 1570-1 (Bureau of Labor Statistics, Autumn 1966).

[53] Citro and Michael, *Measuring Poverty*; and, also, Bernard M. S. Van Praag and Nico L. Van der Sar, "Household Cost Functions and Equivalence Scales," *Journal of Human Resources*, Spring 1988, 193–210.

[54] Ibid.

[55] The approach used here follows that outlined in Gordon Fisher, "Is There Such a Thing as an Absolute Poverty Line Over Time? Evidence from the United States, Britain, Canada, and Australia on the Income Elasticity of the Poverty Line" Poverty Measurement Working paper, U.S. Bureau of the Census, 1995.

[56] See, for example, Peter Saunders, et al., "Development of Indicative Budget Standards for Australia," Policy Research paper No. 74, Department of Social Security, Canberra, Australia, 1998.

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The rise in Czech unemployment, 1998–2000

Markus Scheuer and Robert J. Gitter

Between 1990 and 1994, unemployment in the Czech Republic averaged only 2.8 percent, a rate less than a third of that found in other Central East European transitional economies such as Hungary, Slovakia, and Poland. As late as 1997, the unemployment rate was only 4.7 percent compared with 10.7 percent in Hungary, 11.2 percent in Poland, and 11.6 percent in the Slovak Republic. The picture has changed recently, as unemployment has risen steadily since 1996, and was 8.8 for 2000.[1] This report, an update to our 1998 *Monthly Labor Review* study,[2] examines the reasons underlying the recent increase in unemployment, and discusses why there might be a long-term upward ratcheting of the unemployment rate.

The picture prior to 1997

Our earlier report noted six reasons for the low rate of unemployment in the Czech Republic, both in absolute terms, as well as relative to other Central and East European nations. First, the Czech government drastically devalued the Czech crown, more than the devaluation seen in neighboring countries. The result was a decrease in the price of Czech exports and an increased demand for labor. Second, the Czech workforce was perceived as possessing a relatively high level of education, on a par with that found in Germany. Third, the Czech economy also relied on a system of tripartite employer, labor, and government wage setting. This coalition kept the level of wages relatively low and hence the level of employment high. Fourth, a very active Public Employment Service with low ratios of unemployed persons to staff members was able to place unemployed workers relatively easily. Active labor market policies such as subsidizing employers for job creation were also used.[3] Fifth, the policies of both a low level of minimum wages and unemployment insurance benefits kept the cost of labor low to employers and made the alternatives to working less attractive to potential workers. Sixth, the relatively small agricultural sector meant there were fewer types of these workers, who tend to have more difficulty in finding jobs after the transition from a planned to a market economy.[4]

Despite these factors holding down the level of official unemployment, hidden unemployment in the form of nonproductive workers being retained at State-controlled and other firms was seen as a potential problem. The voucher privatization system, used to transfer the government's share of enterprises to private owners, frequently left the old pretransition managers in charge and the government in control of many of the important decisions of these firms, such as the level of employment.

The 1997 crisis

In 1990, the Czech government devalued the Czech crown and fixed the exchange rate, which stimulated the export of Czech goods. This deep devaluation, along with the other factors listed above, resulted in low levels of unemployment through 1996. Given the strong foreign market for their goods, coupled with limited pressure from the government to restructure, firms did not take full advantage of this opportunity to layoff nonproductive workers. Thus, the favorable position of high demand due to the devaluation was eroded over time because of a domestic inflation rate of 10 percent per annum and rising real wages. By the first quarter of 1997, the trade deficit rose to a figure equal to 11 percent of gross domestic product (GDP).[5]

The Czech government attempted to support the fixed exchange rate by increasing the demand for Czech currency. This was done, in part, by raising interest rates, which resulted in a negative effect on both domestic consumption and investment.[6] In May 1997, the efforts to support the currency were abandoned, and the crown was allowed to float. Although this brought about an end to the extremely high interest rates and reduced the cost of Czech exports, the psychological aftereffects of the devaluation eroded the confidence of Czech consumers and investors and contributed to the beginning of a Czech recession.[7] Falling incomes due to the loss of confidence exacerbated the decline in aggregate demand. As a result, real GDP declined in 1997 and 1998, while the unemployment rate rose from 3.5 percent in 1996 to 7.5 percent in 1998, and the level of employment fell by 171,000 workers. (See table 1 for background on changes in the overall performance of the Czech economy.)

While the foreign trade deficit was increasing, the Czech government was also experiencing an increase in the magnitude of its budget deficit. The government budget deficit rose from an amount equal to 0.1 percent of GDP in 1996 to 1.6 percent of GDP in 1998.[8] This rise precluded any attempts to stimulate the economy with either increased government spending or tax cuts, which would have only worsened the government's already large and increasing budget deficit. Hence, eroding confidence due to the devaluation of the Czech crown, high interest rates, and the government's inability to employ fiscal policy resulted in the beginning of a recession. Unemployment rose to more than 8 percent in January 1999—where it has remained—resulting in the unemployment rate, which was less than 4 percent, to more than double.[9]

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A long-run increase in the unemployment rate

A number of factors may contribute to the unemployment rate staying at these higher levels over the next few years and perhaps even rising. If this occurs, the Czech economy, which held the position of having the second lowest unemployment rate among the Organization of Economic Cooperation and Development (OECD) nations in the mid-1990s, will join the group of European nations with persistently high unemployment rates. Czech unemployment may become chronic as a result of 1) incomplete transformation of enterprises, 2) problems in the banking system and bankruptcy procedures, 3) lack of adequate financial regulation, 4) the level of social welfare payment, and 5) limits on worker mobility. These factors, which in some cases also helped precipitate the recent rise in unemployment, in some cases, also are interrelated.

Incomplete transformation. The Czech government relied heavily on a system of voucher privatization. Although this system did redistribute the ownership of firms from the state to private owners, it did not effectively transform enterprises to operate competitively under a market system.[10] Under the voucher privatization system, Czech citizens aged 18 and older could purchase books of voucher coupons for a nominal charge. These coupons were used in a multiround auction process in which shares of ownership were distributed for more than half of the large firms that were privatized.[11] Individuals could either buy the shares themselves or purchase them through one of more than 400 Investment Privatization Funds (IPF.) There were two waves of voucher privatization, in 1992 and 1994, with approximately two-thirds of the shares ultimately remaining under the control of the IPFs after both waves had transpired.[12] The Czech government retained ownership in a number of utilities, steel mills, and until recently, the four major banks.

The voucher privatization system effectively transferred ownership, but did not lead to a restructuring of the firms. Some authors even referred to this as "pseudo-privatization."[13] The ownership of each firm was dispersed among many individual shareholders, each of whom owned an extremely small part of the company and hence, found it difficult to gather the requisite number of votes to effect a change in enterprise. The IPFs also had a limited ability to control firms, as they were legally constrained from owning more than 20 percent of a firm. The result was that the old pretransition management team, which had no experience in operating in a competitive environment, frequently remained in place. Compounding the problem, the diverse owners found it difficult to apply cost-cutting measures to firms through such means as a reduction of redundant, nonproductive workers.

Given the nominal cost of the vouchers, the privatization also did not result in the acquisition of capital for the firm or revenue for the government. Further, voucher privatization failed to lure new owners with deep pockets and experience in operating under a market system.[14] IPFs, in many cases, did not apply pressure to firms to restructure themselves. The government, which owned the banks that owned the IPF management firms, faced political consequences if it allowed an increase in unemployment resulting from reductions in the level of employment.

Without pressure on management to restructure and layoff nonproductive workers, the competitive position of Czech firms eroded, resulting in the trade imbalances that precipitated the 1997 devaluation of the Czech crown.[15] Had major restructuring and the termination of the employment of nonproductive workers occurred during the mid-1990s when unemployment was low, it would have been easier for these individuals to find work. Additionally, the government could have offered greater training and relocation assistance, as it was not faced with the magnitude of budget deficits it faces today. Two alternatives exist. The Czech Republic could still opt for restructuring, which might lead to increased international competitiveness. This could, in turn, cause an increase in unemployment from an already high level. The other alternative is to simply further delay restructuring and layoffs. For the moment, this will not increase unemployment, but it may require government bailouts and delay the changes necessary to restore productivity growth in the Czech government.

Problems with the Czech banking system and bankruptcy procedures. Four large banks have dominated the Czech banking scene in the last few years; Komerční Banka (KB), Česká Spořitelna (ČS), Investiční a Poštovní Banka (IPB), and Československá Obchodní Banka (ČSOB).[16] Until recently, the Czech government substantially controlled the four, but has sold ČS, IPB and ČSOB and is arranging for the sale of KB.[17] Czech banks had made credit relatively easy to obtain in the past, and firms had relied on bank financing to a larger extent than had similar firms in Hungary and Poland.[18] Government control of the banks, which circumscribed their actions, coupled with a weak bankruptcy law have both slowed the pace of transformation and resulted in a shortage of capital to healthy firms seeking bank loans.

Normally, when banks extend loans to firms, debtor bankruptcy filing remains the method of last resort for the creditor or lender to obtain the repayment of funds. The bank can either demand certain actions of a debtor firm or invoke bankruptcy proceedings. Al-

Table 1. Overall performance measures of the Czech economy, 1993–2000

Statistic	1993	1994	1995	1996	1997	1998	1999	2000
Unemployment rate (percent)	3.5	3.2	2.9	3.5	5.2	7.5	9.4	8.8
People unemployed (in thousands)[1]	1,852	1,665	1,530	1,863	3,689	3,869	4,876	4,574
Real gross domestic product[2]:								
Level (billions of 1995 Czech crowns)	1,275.3	1,303.6	1,381.1	1,447.7	1,432.8	1,401.3	1,390.6	1,071.9
Growth (percent)	.1	2.2	5.9	4.8	–1.0	–2.2	–.2	2.8
Employment (in thousands)[1]	—	4,885	4,963	4,972	4,937	4,866	4,764	[3]4,742
Consumer price index:								
Percent change	18.2	9.7	7.9	8.6	10.0	6.8	2.5	4.0
Overall real wage:								
Percent change	3.7	7.7	8.7	8.8	1.9	–1.2	6.0	[4]2.4
Trade (millions of Czech crowns):								
Exports[5]	414.8	458.4	569.5	588.7	722.5	805.3	908.7	808.6
Imports[5]	430.1	498.1	667.1	748.3	866.5	932.7	974.5	885.4
Balance of trade[6]	–15.3	–39.7	–97.5	–15.5	–144.0	–82.3	–65.8	–76.8
Current account balance[5]	13.2	–22.6	–36.3	–116.5	–101.8	–43.1	–35.5	–47.0
Exchange rate:								
Czech koruna / German Deutsche Mark	17.64	17.75	18.52	18.06	18.28	18.33	18.86	18.21
Czech koruna / U.S. dollar	29.16	28.78	25.55	27.14	31.71	32.27	34.60	38.59

[1] Number of registered job applicants.

[2] For the 1993–99 period, data are for all four quarters; for 2000, data are for the first quarter.

[3] Data for 2000 are for the third quarter.

[4] Data for 2000 are for the first three quarters.

[5] For the 1993–99 period, data are for all four quarters; for 2000, data are for the first three quarters (preliminary data).

[6] Data for 1993–98 are in accordance with methodology for customs statistics in force since January 1, 1996. Data for 1999 and 2000 are in accordance with revised methodology for customs statistics since July 1, 2000.

SOURCE: Czech National Bank, *Inflation Report, January 2001*. Prague, Czech Republic, available on CD. For growth of real GDP, see "European Bank for Reconstruction and Development," *Transition Report, 2000*. London, European Bank for Reconstruction and Development.

though bankruptcy law exists in the Czech Republic, it is not often used effectively. In 1996, the total number of bankruptcies completed, that is, instances in which the bankrupt firm was either liquidated or reorganized, was 725, a figure not even a tenth of that found in neighboring Hungary. Even when bankruptcy is declared, the time required for the lender to recover its assets can be quite long. Court-appointed bankruptcy administrators are paid based on the duration of their assignment and thus have an incentive to overextend the process.[19] Firms that cannot repay their loans may continue to operate without laying off nonproductive workers or making other changes, as full and final bankruptcy is a distant and, possibly, unlikely outcome. Against this backdrop, the large Czech banks extended even more loans, hoping to eventually recapture the original funds if the firm's fortunes improved. The resulting poor loan portfolios meant high losses for the banks. KB reported that in 1996, for almost one-third of its loans, neither interest nor principal had been paid within the last 30 days, and the figure was more than 20 percent for both IPB and ČS.[20] This resulted in the Czech government continuing to spend funds to support these banks. In 1998, for example, the government spent the equivalent of $120 million to bail out ČS at a time when it was already facing a budget deficit.[21]

Currently, healthy firms find it difficult to borrow additional funds from banks. Banks are hesitant to lend if they cannot wield the power of bankruptcy proceedings to ensure repayment. Foreign and privatized Czech banks also are hesitant to lend for this reason, and the nonprivatized Czech banks such as KB have limited resources given the large number of delinquent loans that are not returning the necessary capital for new loans.[22] Hence, the problems of the banking system, along with the relatively ineffective bankruptcy law, have slowed the pace of firm restructuring and are contributing to a current credit crunch. This lack of firm restructuring and a dearth of credit might lead to high sustained levels of unemployment until the banks are fully privatized and an effective bankruptcy system is in place.

Lack of adequate financial regulation. The Czech Republic unfortunately has experienced problems with financial regulation. The general director of one of the four largest banks faced charges of embezzlement in 1997, and 11 execu-

tives of the fifth largest bank faced similar charges. In addition, senior managers of Investment Privatization Funds (IPF) paid inflated prices for companies and siphoned off part of the funds for personal gain.[23] Tunneling, the taking of the property of an IPF or firm by a person or persons with a controlling interest is widespread. The Czech Ministry of Finance cited more than 1,400 such cases for 1996.[24]

A Securities and Exchange Commission (Commission) was created in 1998, but doubts exist as to its potential to adequately regulate equity markets. Although the Czech Commission was modeled after the American Securities and Exchange Commission, the government—not the Commission—sets rules and appoints the Commissioners. The ability of the Commission to carry out its tasks is dependent on the will of the government, and confidence is lacking in some quarters as to the government's commitment to effectively regulate the exchange of securities.[25] One additional problem in the Czech Republic is that unlike in the United States and England, where most fraudulent action is illegal, these same types of actions are legal in the Czech Republic unless specifically outlawed.[26] Under the category of competitiveness, Czech financial markets ranked 37th out of 46 nations, primarily due to weak controls on insider trading.[27]

Potential financiers must of necessity have second thoughts about investing their money in a nation if they believe that fraud might lead to the loss of these funds. In fact, American investors have complained that non-transparent or unethical practices are not uncommon at the company level in the Czech Republic. This is consistent with the fact that foreign direct investment, as a percentage of GDP, is lower in the Czech Republic than is the average for Hungary, Poland, Slovakia, and Slovenia.[28] Further, the government's strong emphasis on eliminating financial irregularities in both the public and private sectors has had little practical results.[29] To the extent that the potential for these types of irregularities serves to inhibit investment by both foreign and domestic parties, the result is a reduced level of employment. Foreign firms also bring in new management and production techniques that can aid in restructuring, as well as provide competition to domestic firms, spurring them to restructure as well. Hence, any reduction in foreign and domestic investment due to inadequate financial regulation can also retard restructuring and may create long-term chronic unemployment.

The social welfare system. The level of benefits available under the unemployment insurance system, *per se,* is not especially high. The typical recipient finds, on average, that monthly payments are capped at approximately one-quarter of the previous monthly earnings.[30] When a job is lost, however, and a family's income level declines, they potentially become eligible for a number of other means-tested programs including a child allowance, a social allowance to families with low income, a housing allowance, as well as other benefits. The combination of unemployment insurance and social benefits results in the typical unemployment insurance recipient receiving combined benefits equal to 47 percent of their gross earnings, a figure that is the second highest among the Organization of Economic Cooperation and Development (OECD) nations. Households with three or more children, which are receiving the various benefits, would see almost no change in their level of income if the adults in the home accepted a job.[31]

As is typical, the level of unemployment is higher for Czech workers with only a primary school education. In recent years, their relative position in the labor force has declined and the number of jobs held by these workers has fallen by 28 percent.[32] As these workers, especially parents who have low potential earnings, experience unemployment as a result of the recent recession, they have found that the economic rewards from the social support system can easily outpace their limited earnings capacity. Moreover, as has happened in other nations, unemployment among this group could become long term.[33]

Other related protections for workers include requirements for dismissal notice and severance pay. Workers who are to be laid off permanently must be given at least 2 months' notice. If a firm wishes to lay off a worker temporarily, it must pay out 100 percent of an individual worker's average earnings, although this figure may be reduced to 60 percent if both parties have agreed so in advance. Firms with at least 20 employees must fill 4.5 percent of their positions with workers who have reduced abilities and at least 0.5 percent with severe disabilities.[34] These policies increase the cost of hiring new workers and, therefore, could reduce new hires during a future expansion and leave many of the unemployed without jobs.

Limits on worker mobility. Unemployment has not been spread evenly throughout the Czech Republic. In early 1998, when the national unemployment rate was 5.6 percent, the rate was more than 10 percent in several areas in the regions of Bohemia and Moravia, while the rate around Prague was under 1.5 percent.[35] Migration of unemployed workers from high unemployment areas to places where jobs are more plentiful has been limited. In response to a survey, 77 percent of unemployed Czechs stated that they found it unacceptable to move somewhere else solely for work-related reasons. Only 10 percent said they would willingly make such a move.[36] Further, many of the areas with low unemployment, such as Prague, have a shortage of adequate housing.

Moving might entail giving up adequate government-subsidized housing for a chance at a job, but the individual might find only inadequate housing in the new location. This lack of willingness to be mobile increases the degree of structural unemployment and has the potential to result in labor markets that retain high levels of unemployment over long periods of time.

GIVEN ITS LOW UNEMPLOYMENT RATE in the mid-1990s, the Czech Republic had an opportunity to restructure enterprises with a cushion of jobs for displaced workers. Unfortunately, although privatization occurred restructuring did not, and problems still persist in the banking sector and with the bankruptcy system. In the interim, the unemployment rate has risen to approximately 9 percent in the yearly average for 2000 and is projected to rise still higher. The lack of restructuring and the problems in the banking industry, compounded by the lack of an effective bankruptcy procedure, contributed to the increase in unemployment and could exacerbate the economic stagnation. Further, the considerable lack of adequate financial regulation also limits the ability of firms to raise sorely needed capital and may reduce employment growth in the future. The high level of benefits available to the unemployed, as well as their strong desire not to relocate could also contribute to a high unemployment rate. □

Notes

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[1] Rheinisch Westfälisches Institut für Wirtschaftsforschung (RWI), *Konjunkturberichte [Economic Report]*, Jg. 51, H. 2 (RWI, Essen, Germany, 2000), p. 109. An alternative source to consult in English is *Business Cycle Reports*, Vol. 51.

[2] Robert J. Gitter and Markus Scheuer, "Low unemployment in the Czech Republic: 'miracle' or 'mirage'?" *Monthly Labor Review*, August 1998, pp. 31–37.

[3] Tito Boeri and Michael J. Burda, "Active labor market policies, job matching and the Czech miracle," *European Economic Review*, April 1996, pp. 805–17.

[4] Gitter and Scheuer, "Low unemployment in the Czech Republic," pp. 31–37.

[5] Organization of Economic Cooperation and Development (OECD), *Economic Survey of the Czech Republic: 1997–1998* (Paris, OECD, 1998).

[6] The Lombard Rate (the interest rate charged by the central bank for bank borrowings that are covered by securities) rose as high as 50 percent. For more information, see "The 1997 guide to emerging currencies," *Euromoney*, July 1997, pp. 28–29.

[7] OECD, *Economic Survey of the Czech Republic: 1997–1998*.

[8] Petr Chvojka and Petr Dufek, "Economic Outlook for the Czech Republic," *Československá Obchodní Banka, A.S.*, May 24, 1999.

[9] OECD, *Main Economic Indicators*, issued monthly, 2001.

[10] Roman Frydman, Cheryl Gray, Marek Hessel, and Andrzej Rapaczynski, "Private ownership and corporate performance: evidence from transition economies," *European Bank for Reconstruction and Development Working Paper, No. 26* (London, October 1997).

[11] See David Stark, and László Bruszt, *Postsocialist Pathways* (Cambridge, Cambridge University Press, 1998), parts II and III, pp. 51–201, for a comparison of privatization strategies in Central European countries.

[12] OECD, *Economic Survey of the Czech Republic: 1997–1998*, p. 50.

[13] Alice Amsden, Jacek Kochanowicz, and Lance Taylor, *The Market Meets Its Match: Restructuring the Economies of Eastern Europe* (Cambridge, MA, Harvard University Press, 1994).

[14] One prominent exception was the acquisition of Škoda by Volkswagen. See Gerlinde Dörr and Tanja Kessel, "Das Restrukturierungsmodell Škoda-Volkswagen—Ergebnis aus Transfer und Transformation" ["Škoda-Volkswagen as a restructurization model—outcome of the transfer and transformation"], (Wissenschaftszentrum Berlin [Social Science Research Center Berlin] (WZB)-papers, FS II 97–603, March 1997); and, also, Gerlinde Dörr and Tanja Kessel, "Restructuring via internationalization—the auto industry's direct investment projects in Eastern Central Europe," (WZB-papers, FS II 99–201, 1999). A study cited in the OECD, *Economic Survey of the Czech Republic: 1999–2000* noted that firms privatized to foreign interests had twice the productivity levels of domestic firms. For a study about the problems of one of the former leading big Czech manufacturing firms that tried to privatize without foreign help or money, see Dirk Tänzler and Ivana Mazálkova, "Dezentralisierung und Rezentralisierung—Restrukturierung eines tschechischen Maschinenbaukonzerns" ["Decentralization and recentralization—restructurization of a Czech mechanical engineering company"], (WZB-papers, FS II 96–601, August 1996).

[15] The growth of labor productivity clearly lagged in the 1994–1997 period. The average annual growth rate was only 2.7 percent in the Czech Republic compared to 3.5 percent in Hungary and 5.8 percent in Poland. The result was an 8.6-percent annual increase in real unit labor costs compared with virtually no change in Poland and a 6.2-percent annual decrease in Hungary. (OECD, *Economic Survey of the Czech Republic: 1997–1998*, p. 55.)

[16] Assets are for December 1996, and are taken from Anthony Robinson, "Czech Republic," *The Banker*, February 1998, pp. 48–49. These four were dominant as the assets of the fourth largest, ČSOB at that time, were approximately 7 times that of the fifth largest bank.

[17] IPB was sold to Nomura Securities but the bank collapsed and was put under the administrative control of the government before being merged with ČSOB. See *The Economist*, June 24, 2000. At the beginning of the year 2000, the Czech cabinet agreed to sell 52 percent of Česká Spořitelna to Erste Bank from Austria, which left leading Czech bank, Komerční Banka (KB), as the last major Czech bank to be privatized; for more information, see Jana Ruckerova, "Czech Republic: Česká Spořitelna sold, last major bank," Tradeport Trade Directory. Source: U.S. Department of Commerce, National Trade Data Bank, June 21, 2000, on the Internet at **http://tradeport.org/ts/countries/czechrep/mrr/mark0035.html** (visited September 20, 2000).

[18] Bank credit was used to finance 36 percent of investment in the Czech Republic in the 1990–94 period, a figure approximately twice that found in Hungary and Poland. (OECD, *Economic Survey of the Czech Republic: 1999*, p. 81.)

[19] OECD, *Economic Survey of the Czech Republic: 2000*, p. 88.

[20] Anthony Robinson, "Czech Republic," *The Banker*, February 1998, pp. 48–49.

[21] Massimo Calabresi and Jan Stojaspal, "Nothing to toast about: Czechs struggle to mend the tattered remnants of their velvet revolution," *Time International*, March 15,

1999, p. 18.

[22] KB had 80 billion Czech crowns of bad debt (more than 2 billion U.S. dollars) in 1999, which limited the Czech government's ability to sell a bank with such an unattractive loan portfolio. *Business Week*, March 3, 2000, p. 15.

[23] Jeremy Adams, "Hope and Opportunity Spring from Prague Reforms," *Corporate Finance*, September 1997, pp. 41–43.

[24] Martin Myant, "The Transformation of Czech Enterprises," in Martin Myant, ed., *Industrial Competitiveness in East-Central Europe* (Cheltenham, Edward Elgar, 1999).

[25] OECD, *Economic Survey of the Czech Republic: 1997–1998*, p. 64.

[26] Leah Bower, "Collaring financial criminals," *The Prague Post*, August 30, 2000.

[27] *The World Competitiveness Yearbook 1996*, (Lausanne), as discussed in Karel Zeman, *Competitiveness in Central and Eastern Europe*, Research Center of Integration of the Czech Republic into the European Economy: Monitoring the Preparation of Transition Countries of EU-Accession, (International Institute for Management Development (IMD), 2000), pp.103–33.

[28] For an extensive survey of the problem of inadequate financial regulation in transitional economies see Joel S. Hellman, Geraint Jones; Daniel Kaufmann, and Mark Schankerman, "Measuring governance and state capture: the role of bureaucrats and firms in shaping the business environment: Results of a firm-level study across 20 transition economies," European Bank for Reconstruction and Development Working Paper, No. 51 (London, June 2000).

[29] Tradeport Trade Directory, Czech Republic 1999, "Investment Climate Statement," on the Internet at **http://tradeport.org/ts/countries/czechrep/mrr/mark0076.html** (visited September 10, 2000).

[30] OECD, *Economic Survey of the Czech Republic: 1997–1998*, p. 98.

[31] Ibid., p. 100.

[32] Ibid., p. 80.

[33] Local Public Employment Service and social assistance workers estimated that in 1997, about two-thirds of benefit recipients looked for work for the sole purpose of meeting the requirement necessary to receive benefits. (OECD, *Economic Survey of the Czech Republic: 1997–1998*, p. 103.)

[34] OECD, *Economic Survey of the Czech Republic: 1997–1998*, p. 92–93.

[35] Ladka Bauerova, "New joblessness comes in patches," *The Prague Post*, April 29, 1998. For calculations on an earlier period, see Michael J. Burda and Stefan Profit, "Matching across space: Evidence on mobility in the Czech Republic," *Labour Economics* (October 1996), pp. 255–78.

[36] Ross Larsen, "Who wants a job if it means moving?" *The Prague Post*, April 29, 1998.

Measures and models

How can an economy, one as dynamic as the U.S. economy has been throughout the past 12 months, be measured and modeled? In his remarks before the National Association for Business Economics, Alan Greenspan provides some suggestions on meeting the challenge: "Should we endeavor to continue to refine our techniques of deriving maximum information from an existing body of data? Or should we find ways to augment our data library to gain better insight into how our economy is functioning? Obviously, we should do both, but I suspect greater payoffs will come from more data than from more technique." He acknowledges that U.S. statistical systems are "world class...and set the world standard." Yet, the time has arrived to implement even more statistical resources to better understand "the complexities of the newer technologies that confront analysts."

The types of problems that these analysts must confront relate to the notion of a unit of output, and exactly how an economist defines output. For decades, any attempt to define output—and with it, price—centered on the product produced. For example, "an average price of hot rolled steel and a corresponding total tonnage was precise enough for most analytic needs. By the same token, tons of steel per work hour in a rolling mill yielded rough approximations of underlying productivity for most purposes."

Chairman Greenspan believes that a new model may be necessary to answer the question of output in today's ever-changing economy. Using computer software as an example, we see that the issues have grown more complex, for while a dollar value can be applied to the application, when the economist compares software-application values over time, how much of the change is related to volume and how much to price? "The answer... requires judgments about very fundamental issues in measurement.... Problems that were always latent in defining steel prices and quantities but rarely rose to this level of significance are threatening to seriously challenge our measurement systems in the age of the microprocessor, fiber optics, and the laser."

Another area of pricing he discusses is surgical procedures and the best way "to capture changes in the mix of inputs used to treat a given disease." As an example, he cites the changes in inpatient and outpatient procedures and how earlier techiques of measuring prices no longer seem to be able to capture "the appropriate degree of productity advance in medicine." The old ways of measuring no longer seem valid, particularly the price deflators currently employed, and Chairman Greenspan notes that progress is visible, yet challenges remain.

He concludes with a thought about just what is actually being measured. "The measured characteristics may be acting only as proxies for the qualities of the services that buyers ultimately value. This...raises the difficult question of whether the correct approach may be to move toward directly pricing the services we obtain from our information processing systems rather than pricing the individual hardware components and the software."

Cancer survivors keep working

When people take ill with a serious disease, the last thing they need to worry about is losing their jobs. In "Breast Cancer Survival, Work, and Earnings," (National Bureau of Economic Research Working Paper 8134), Cathy J. Bradley, Heather Bednarek, and David Neumark study whether employers discriminate against cancer survivors and if they do so, then why; whether health effects, motivational effects, or other incentives related to health insurance retention cause labor supply to shift; and what policies might mediate some of the more negative outcomes for cancer survivors. The last is particularly interesting for it can compel people to remain in jobs that they are ill-suited for or do not like, for the primary purpose of maintaining health insurance.

The authors use data from the first wave of the Health and Retirement Study to determine if breast cancer influences labor market decisions and outcomes. They also supplement the data with an additional sample of cancer survivors from Detroit, Michigan, and a comparison sample from Detroit residents who responded to the 1999 March supplement of the Current Population Survey (CPS).

What they found was surprising. Women who have survived breast cancer tend to work longer hours than women who have not had cancer, a pattern that continues in subsequent years. They do not find any evidence to support that this continued working is due to a lack of health insurance. These women also often earn more, which may be a result of the increased working hours. Why should these women choose to continue their careers? They authors posit: "By virtue of being a 'survivor' women could approach their careers with more vigor than they had previously had." □

We are interested in your feedback on this column. Please let us know what you have found most interesting and what essential readings we may have missed. Write to: Executive Editor, *Monthly Labor Review*, Bureau of Labor Statistics, Washington, DC, 20212, or e-mail MLR@bls.gov

Global workplace violence

Violence at Work. 2nd ed. By Duncan Chappell and Vittorio Di Martino. Geneva, International Labour Office, 171 pp. Available from ILO Publications Center, Waldorf, MD.

This book, produced under the auspices of the International Labour Office (ILO), based in Geneva, Switzerland, describes a cross-national, comprehensive examination of violence at work in nations around the world. The forward to the book states it is designed to promote additional research and new preventive action in the area of workplace violence. The volume is composed of seven chapters divided into three parts: 1) Understanding Violence at Work; 2) Responding to Violence at Work, including identifying best solutions to the problem; and 3) Future Guidance, which weighs the evidence and suggests specific, practical action based on successful experience.

This international study examines violence in industrialized and agrarian nations. The authors point out, quite rightly, that workplace violence is "not merely an episodic problem..." but rather, "a highly complex issue rooted in wider social, economic, and organizational and cultural factors." While analysis of statistical data is impeded by the lack of agreement regarding "violence," "work," and "workplace" definitions, the authors report that "violence" and "aggression" are terms used interchangeably. They cite Reiss and Roth's (1993) definition of violence: "behaviours by individuals that intentionally threaten, attempt or inflict physical harm on others or on oneself."

The ILO has expanded this operationalization to include violence that is psychological in nature, including emotional abuse, infliction of fear and anxiety, sexual harassment, bullying, and mobbing ("ganging up" on an employee). The ILO list of violent acts ranges from "deliberate silence" to "homicide," which suggests a weakness of this work. The authors cite an extensive amount of important research-based findings, but these studies encompass numerous varied situations and scenarios under the rubric of "workplace violence." Thus, the complexity of these situations makes it virtually impossible to design interventions to address all, or even most, workplace situations where violence is likely to arise. The authors also point out that the incidence of workplace violence appears to be rising, but acknowledge that this trend may be due to increased reporting of violent incidents in many nations.

The authors posit an interactive model of workplace violence that accounts for both individual and workplace risk factors that affect perpetrator and victim interaction. These factors range from cultural to personality, and media influences. Further, the model accentuates the violent interaction's effect on the workplace, victim, and perpetrator. The model provides a theoretical vehicle or system from which to develop useful interventions. It should be noted that some interventions, such as attempting to identify potentially violent employees through psychological testing, background checks, and substance abuse tests, have the potential to conflict with privacy rights and legal issues, and may have validity problems that can challenge their effectiveness.

The authors cite organizational models of managing occupational violence, which they believe provide guidelines for preventing workplace violence. These models emphasize the necessity of preventive action, prevailing upon the interpersonal skills of management and workers; an understanding that the workplace holds insights into effective interventions; the implementation of a multitude of interventions; and the caveat that policies and programs should be reviewed frequently to address workplace changes.

The final chapter proscribes future actions and lobbies strongly for the adoption of a universal zero tolerance policy toward workplace violence. Acknowledging that no nation is immune from the rising wave of workplace violence, they favor increasing awareness of this problem, and believe interactive models of workplace violence hold the key to enhancing predictions of violent incidents. Other key elements to successful action include cooperation among interested parties to promote workplace violence reduction efforts, a preventive, systematic, and targeted approach to violence at work; institution of focused legislation; adoption of effective prevention guidelines; immediate intervention and long-term assistance to victims of violence; and universal acceptance that workplaces throughout the world should be free of violence and aggression.

An impressive list of cross-national references is provided, as well as important and useful research-based guidelines on effective prevention measures, defusing workplace aggression, post-incident planning, and effective reportings of violent incidents. This volume is informative, clearly written, comprehensive, and will raise awareness of a serious and pervasive social problem that affects numerous workers around the world.

—Sylvia Kay Fisher

Office of Survey Methods Research,
Bureau of Labor Statistics

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This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 16–17, 39, and 43. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 2001 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 2000 *Review* and reflect the experience through March 2000. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 45 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

http://stats.bls.gov/cpshome.htm

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

http://stats.bls.gov/ceshome.htm

Additional information on labor force data for areas below the national level are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment*.

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95*, BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments;* and *Employee Benefits in State and Local Governments*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI , see the December 1996 issue of the *Monthly Labor Review*. Additional data on international prices appear in monthly news releases.

Listings of industries for which productivity indexes are available may be found on the Internet:

http://stats.bls.gov/iprhome.htm

For additional information on international comparisons data, see *International Comparisons of Unemployment*, BLS Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry*, a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.
p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2.

Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

Employment and Unemployment Data

(Tables 1; 4–20)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 50,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*.

Labor force data in tables 1 and 4–9 are seasonally adjusted. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the X-11 *ARIMA Seasonal Adjustment Method*, by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

At the beginning of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. The historical seasonally adjusted data usually are revised for only the most recent 5 years. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 691–6378.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 300,000 establishments representing all industries except agriculture. Industries are classified in accordance with the 1987 *Standard Industrial Classification (SIC) Manual*. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay

for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 1999 benchmarks, was made with the release of May 2000 data, published in the July 2000 issue of the *Review*. Coincident with the benchmark adjustment, historical seasonally adjusted data were revised to reflect updated seasonal factors. Unadjusted data from April 1999 forward and seasonally adjusted data from January 1996 forward are subject to revision in future benchmarks.

In addition to the routine benchmark revisions and updated seasonal factors introduced with the release of the May 2000 data, all estimates for the wholesale trade division from April 1998 forward were revised to incorporate a new sample design. This represented the first major industry division to convert to a probability-based sample under a 4-year phase-in plan for the establishment survey sample redesign project. For additional information, see the the June 2000 issue of *Employment and Earnings*.

Revisions in State data (table 11) occurred with the publication of January 2000 data.

Beginning in June 1996, the BLS uses the X-12 ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review*). When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and as final in March.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Monthly Industry Employment Statistics: (202) 691–6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 691–6392 (table 10) or (202) 691–6559 (table 11).

Compensation and Wage Data

(Tables 1–3; 21–27)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of

wages and compensation. For the bargaining status, region, and metropolitan/non-metropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) are available on the Internet:

http://stats.bls.gov/ecthome.htm

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Office of Compensation Levels and Trends: (202) 691–6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 9,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25 for medium and large private establishments and in table 26 for small private establishments and State and local government.

The survey covers paid leave benefits such as holidays and vacations, and personal, funeral, jury duty, military, family, and sick leave; short-term disability, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid family leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit (if any), and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of coverage within a given benefit.

Notes on the data

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small private establishments were conducted in even-numbered years, and surveys of medium and large establishments were conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Office of Compensation Levels and Trends on the Internet:

http://stats.bls.gov/ebshome.htm

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of work time lost because of stoppage. These data are presented in table 27.

Data are largely from a variety of published sources and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of

workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Office of Compensation and Working Conditions: (202) 691–6282, or the Internet:

http://stats.bls.gov/cbahome.htm

Price Data

(Tables 2; 28–38)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—1982 = 100 for many Producer Price Indexes, 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993–95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 29. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of home-ownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 and January 1998 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 691–7000.

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 691–7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products,

the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each harmonized group and are then aggregated to the higher level. The values assigned to each weight category are based on trade value figures compiled by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1995.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f.(costs, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges. For a given product, only one price basis series is used in the construction of an index.

FOR ADDITIONAL INFORMATION on international prices, contact the Division of International Prices: (202) 691–7155.

Productivity Data

(Tables 2; 39–42)

Business sector and major sectors

Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per hour, output per unit of labor input, or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined inputs. For private business and private nonfarm business, inputs include labor and capital units. For manufacturing, inputs include labor, capital, energy, non-energy materials, and purchased business services.

Compensation per hour is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

Unit nonlabor costs contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Labor inputs are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

Capital services are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total cost. Combined units of labor, capital, energy, materials, and purchased business services are similarly derived by combining changes in each input with weights that represent each input's share of total costs. The indexes for each input and for combined units are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 39–42 describe the relation-

ship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 691–5606.

Industry productivity measures

Description of the series

The BLS industry productivity data supplement the measures for the business economy and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. In addition to labor productivity, the industry data also include annual measures of compensation and unit labor costs for three-digit industries and measures of multifactor productivity for three-digit manufacturing industries and railroad transportation. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per hour is derived by dividing an index of industry output by an index of labor input. For most industries, **output** indexes are derived from data on the value of industry output adjusted for price change. For the remaining industries, output indexes are derived from data on the physical quantity of production.

The **labor input** series consist of the hours of all employees (production workers and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

Unit labor costs represent the labor compensation costs per unit of output produced, and are derived by dividing an index of labor compensation by an index of output. **Labor compensation** includes payroll as well as supplemental payments, including both legally required expenditures and payments for voluntary programs.

Multifactor productivity is derived by dividing an index of industry output by an index of the combined inputs consumed in producing that output. **Combined inputs** include capital, labor, and intermediate purchases. The measure of **capital input** used represents the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories. The measure of **intermediate purchases** is a combination of purchased materials, services, fuels, and electricity.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics and the Bureau of the Census,with additional data supplied by other government agencies, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some trade and services industries, indexes of output per hour of all persons (including self-employed) are constructed. For some transportation industries, only indexes of output per employee are prepared.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 691–5618.

International Comparisons

(Tables 43–45)

Labor force and unemployment

Description of the series

Tables 43 and 44 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country. For further information on adjustments and comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000, pp. 3-20.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on Employment and Unemployment Data: Household survey data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population aged 16 and older in France, Sweden, and the United Kingdom; 15 and older in Australia, Japan, Germany, Italy from 1993 onward, and the Netherlands; and 14 and older in Italy prior to 1993. An exception to this rule is that the Canadian statistics for 1976 onward are adjusted to cover ages 16 and older, whereas the age at which compulsory schooling ends remains at 15. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their jobs are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Italy, the Netherlands, and the United Kingdom are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries, therefore, are subject to revision whenever data from more current labor force surveys become available.

There are breaks in the data series for the United States (1990, 1994, 1997, 1998, 1999, 2000), Canada (1976) France (1992), Germany (1991), Italy (1991, 1993), the Netherlands (1988), and Sweden (1987).

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 census, adjusted for the estimated undercount, also were incorporated. In 1996, previously

published data for the 1990–93 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. In 1997, revised population controls were introduced into the household survey. Therefore, the data are not strictly conparable with prior years. In 1998, new composite estimation procedures and minor revisions in population controls were introduced into the household survey. Therefore, the data are not strictly comparable with data for 1997 and earlier years. See the Notes section on Employment and Unemployment Data of this *Review*.

BLS recently introduced a new adjusted series for Canada. Beginning with the data for 1976, Canadian data are adjusted to more closely approximate U.S. concepts. Adjustments are made to the unemployed and labor force to exclude: (1) 15-year-olds; (2) passive jobseekers (persons only reading newspaper ads as their method of job search); (3) persons waiting to start a new job who did not seek work in the past 4 weeks; and (4) persons unavailable for work due to personal or family responsibilities. An adjustment is made to include full-tine students looking for full-time work. The impact of the adjustments was to lower the annual average unemployment rate by 0.1–0.4 percentage point in the 1980s and 0.4–1.0 percentage point in the 1990s.

For France, the 1992 break reflects the substitution of standardized European Union Statistical Office (EUROSTAT) unemployment statistics for the unemployment data estimated according to the International Labor Office (ILO) definition and published in the Organization for Economic Cooperation and Development (OECD) annual yearbook and quarterly update. This change was made because the EUROSTAT data are more up-to-date than the OECD figures. Also, since 1992, the EUROSTAT definitions are closer to the U.S. definitions than they were in prior years. The impact of this revision was to lower the unemployment rate by 0.1 percentage point in 1992 and 1993, by 0.4 percentage point in 1994, and 0.5 percentage point in 1995.

For Germany, the data for 1991 onward refer to unified Germany. Data prior to 1991 relate to the former West Germany. The impact of including the former East Germany was to increase the unemployment rate from 4.3 to 5.6 percent in 1991.

For Italy, the 1991 break reflects a revision in the method of weighting sample data. The impact was to increase the unemployment rate by approximately 0.3 percentage point, from 6.6 to 6.9 percent in 1991.

In October 1992, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed those persons who had not actively sought work in the past 30 days.) The break in the series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.2 percentage points, from 8.3 to 9.5 percent in fourth-quarter 1992. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the nearly 4 percent indicated by the data shown in table 44. This difference is attributable mainly to the incorporation of the 1991 population benchmarks in the 1993 data. Data for earlier years have not been adjusted to incorporate the 1991 census results.

For the Netherlands, a new survey questionnaire was introduced in 1992 that allowed for a closer application of ILO guidelines. EUROSTAT has revised the Dutch series back to 1988 based on the 1992 changes. The 1988 revised unemployment rate is 7.6 percent; the previous estimate for the same year was 9.3 percent.

There have been two breaks in series in the Swedish labor force survey, in 1987 and 1993. Adjustments have been made for the 1993 break back to 1987. In 1987, a new questionnaire was introduced. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes lowered Sweden's 1987 unemployment rate by 0.4 percentage point, from 2.3 to 1.9 percent. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month and a new adjustment for population totals was introduced. The impact was to raise the unemployment rate by approximately 0.5 percentage point, from 7.6 to 8.1 percent. Statistics Sweden revised its labor force survey data for 1987–92 to take into account the break in 1993. The adjustment raised the Swedish unemployment rate by 0.2 percentage point in 1987 and gradually rose to 0.5 percentage point in 1992.

Beginning with 1987, BLS has adjusted the Swedish data to classify students who also sought work as unemployed. The impact of this change was to increase the adjusted unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. In 1998, the adjusted unemployment rate had risen from 6.5 to 8.4 percent due to the adjustment to include students.

The net effect of the 1987 and 1993 changes and the BLS adjustment for students seeking work lowered Sweden's 1987 unemployment rate from 2.3 to 2.2 percent.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691–5654.

Manufacturing productivity and labor costs

Description of the series

Table 45 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) in the United States, Canada, Japan, France, Germany, Norway, and Sweden, and to all employees (wage and salary earners) in the other countries.

Definitions

Output, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production.

The 1977–97 output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977.

U.S. gross product originating is a chain-type annual-weighted series. (For more information on the U.S. measure, see Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry, 1959–94," *Survey of Current Business*, August 1996, pp. 133–55.) The Japanese value added series is based upon one set of fixed price weights for the years 1970 through 1997. Output series for the other foreign economies also employ fixed price weights, but the weights are updated periodically (for example, every 5 or 10 years).

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 39 and 41 in this section). The quarterly measures are on a "sectoral output" basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total labor hours refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

Denmark has not published estimates of average hours for 1994–97; therefore, the BLS measure of labor input for Denmark ends in 1993.

Total compensation (labor cost) includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. The measures are from the national accounts of each country, except those for Belgium, which are developed by BLS using statistics on employment, average hours, and hourly compensation. For Canada, France, and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons measures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (for all years) and Italy (beginning 1970) refer to mining and manufacturing less energy-related products, and the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691–5654.

Occupational Injury and Illness Data

(Tables 46–47)

Survey of Occupational Injuries and Illnesses

Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Occupational injury is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday injuries and illnesses are cases that involve days away from work, or days of restricted work activity, or both.

Lost workdays include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

Incidence rates are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the

available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 691–6180, or access the Internet at:

http://www.bls.gov/oshhome.htm

Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. To be included in the fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity, or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 691–6175, or the Internet at:

http://www.bls.gov/oshhome.htm

Bureau of Labor Statistics Internet

The Bureau of Labor Statistics World Wide Web site on the Internet contains a range of data on consumer and producer prices, employment and unemployment, occupational compensation, employee benefits, workplace injuries and illnesses, and productivity. The homepage can be accessed using any Web browser:

http://stats.bls.gov

Also, some data can be accessed through anonymous FTP or Gopher at

stats.bls.gov

1. Labor market indicators

Selected indicators	1999	2000	1999				2000				2001
			I	II	III	IV	I	II	III	IV	I
Employment data											
Employment status of the civilian noninstitutionalized population (household survey):[1]											
Labor force participation rate	67.1	67.2	67.1	67.1	67.1	67.1	67.4	67.3	67.0	67.1	67.2
Employment-population ratio	64.3	64.5	64.3	64.2	64.2	64.3	64.6	64.6	64.3	64.4	64.4
Unemployment rate	4.2	4.0	4.3	4.3	4.2	4.1	4.1	4.0	4.0	4.0	4.2
Men	4.1	3.9	4.1	4.2	4.1	4.0	3.9	3.9	3.9	4.0	4.3
16 to 24 years	10.3	9.7	10.4	10.5	10.1	10.3	9.7	9.8	9.8	9.6	10.6
25 years and over	3.0	2.8	3.0	3.0	3.0	2.9	2.8	2.8	2.8	2.9	3.1
Women	4.3	4.1	4.4	4.4	4.3	4.2	4.2	4.1	4.2	4.0	4.2
16 to 24 years	9.5	8.9	9.7	9.2	9.6	9.4	9.5	9.0	8.6	8.6	8.6
25 years and over	3.3	3.2	3.4	3.5	3.3	3.1	3.2	3.2	3.3	3.0	3.3
Employment, nonfarm (payroll data), in thousands:[1]											
Total	128,786	131,417	127,800	128,430	129,073	129,783	130,626	131,552	131,619	131,836	132,232
Private sector	108,616	110,847	107,741	108,319	108,874	109,507	110,195	110,725	111,084	111,402	111,670
Goods-producing	25,482	25,661	25,488	25,454	25,459	25,524	25,680	25,703	25,680	25,623	25,561
Manufacturing	18,543	18,437	18,632	18,543	18,516	18,482	18,481	18,488	18,453	18,350	18,128
Service-producing	103,304	105,756	102,312	102,976	103,614	104,259	104,946	105,849	105,940	106,213	106,671
Average hours:											
Private sector	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.4	34.3	34.3
Manufacturing	41.7	41.5	41.6	41.7	41.8	41.7	41.7	41.7	41.5	41.0	40.8
Overtime	4.6	4.5	4.5	4.6	4.6	4.7	4.6	4.7	4.5	4.2	3.9
Employment Cost Index[2]											
Percent change in the ECI, compensation:											
All workers (excluding farm, household and Federal workers)	3.4	4.1	.4	1.0	1.1	.9	1.3	1.0	1.0	.7	–
Private industry workers	3.4	4.4	.4	1.1	.9	.9	1.5	1.2	.9	.7	–
Goods-producing[3]	3.4	4.4	.8	.7	.9	1.0	1.6	1.2	.9	.6	–
Service-producing[3]	3.4	4.4	.3	1.3	.9	.8	1.4	1.2	1.0	.7	–
State and local government workers	3.4	3.0	.5	.4	1.5	1.0	.6	.3	1.3	.7	–
Workers by bargaining status (private industry):											
Union	2.7	4.0	.4	.7	.9	.7	1.3	1.0	1.2	.5	–
Nonunion	3.6	4.4	.5	1.2	.9	1.0	1.5	1.2	1.0	.7	–

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1999	2000	1998	1999				2000			
			IV	I	II	III	IV	I	II	III	IV
Compensation data[1,2]											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm	3.4	4.1	0.6	0.4	1.0	1.1	0.9	1.3	1.0	1.0	0.7
Private nonfarm	3.4	4.4	.6	.4	1.1	.9	.9	1.5	1.2	.9	.7
Employment Cost Index—wages and salaries:											
Civilian nonfarm	3.5	3.8	.7	.5	1.0	1.1	.8	1.1	1.0	1.1	.6
Private nonfarm	3.5	3.9	.6	.5	1.2	.9	.9	1.2	1.0	1.0	.6
Price data[1]											
Consumer Price Index (All Urban Consumers): All Items	2.7	3.4	.2	.7	.7	1.0	.2	1.7	.7	.8	.2
Producer Price Index:											
Finished goods	2.9	4.3	.4	.0	1.2	1.5	.1	1.4	1.3	.6	.2
Finished consumer goods	3.8	3.8	.2	.0	1.8	2.2	−.2	1.8	1.8	.7	.0
Capital equipment	.3	1.2	.9	−.1	−.4	−.4	1.2	.1	.0	.0	.9
Intermediate materials, supplies, and components	3.7	4.1	−1.6	−.2	1.9	1.9	.1	1.9	1.6	1.0	−.4
Crude materials	15.3	31.6	−2.5	−.1	9.4	10.2	−3.5	9.1	11.2	.3	8.1
Productivity data[3]											
Output per hour of all persons:											
Business sector	2.8	4.3	3.5	2.7	.5	4.7	7.6	1.7	7.0	2.4	3.2
Nonfarm business sector	2.6	4.3	3.2	2.0	.2	5.0	8.0	2.1	6.3	3.0	2.4
Nonfinancial corporations[4]	3.5	–	2.4	3.0	2.7	4.4	5.8	3.1	5.6	4.4	–

[1] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

NOTE: Dash indicates data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ending					
	1999		2000				1999		2000			
	III	IV	I	II	III	IV	III	IV	I	II	III	IV
Average hourly compensation:[1]												
All persons, business sector	5.1	3.8	3.7	7.1	5.7	7.5	4.6	4.5	4.3	4.9	5.0	6.0
All persons, nonfarm business sector	5.2	4.2	4.1	6.0	6.2	6.6	4.4	4.4	4.5	4.9	5.1	5.7
Employment Cost Index—compensation:												
Civilian nonfarm[2]	1.1	.9	1.3	1.0	1.0	.7	3.1	3.4	4.3	4.4	4.3	4.1
Private nonfarm	.9	.9	1.5	1.2	.9	.7	3.1	3.4	4.6	4.6	4.6	4.4
Union	.9	.7	1.3	1.0	1.2	.5	2.5	2.7	3.6	3.9	4.2	4.0
Nonunion	.9	1.0	1.5	1.2	1.0	.7	3.2	3.6	4.7	4.6	4.7	4.4
State and local governments	1.5	1.0	.6	.3	1.3	.7	2.9	3.4	3.6	3.5	3.3	3.0
Employment Cost Index—wages and salaries:												
Civilian nonfarm[2]	1.1	.8	1.1	1.0	1.1	.6	3.3	3.5	4.0	4.0	4.0	3.8
Private nonfarm	.9	.9	1.2	1.0	1.0	.6	3.2	3.5	4.2	4.1	4.1	3.9
Union	.7	.6	.5	.9	1.1	.9	2.5	2.6	2.7	2.8	3.2	3.4
Nonunion	.9	.9	1.3	1.1	1.0	.6	3.3	3.6	4.4	4.3	4.3	4.0
State and local governments	1.9	.9	.6	.3	1.7	.7	3.3	3.6	3.8	3.7	3.5	3.3

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

[2] Excludes Federal and household workers.

4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
TOTAL															
Civilian noninstitutional population[1]	207,753	209,699	209,053	209,216	209,371	209,543	209,727	209,935	210,161	210,378	210,577	210,743	210,889	211,026	211,171
Civilian labor force	139,368	140,863	140,705	141,114	140,573	140,757	140,546	140,724	140,847	141,000	141,136	141,489	141,955	141,751	141,868
Participation rate	67.1	67.2	67.3	67.4	67.1	67.2	67.0	67.0	67.0	67.0	67.0	67.1	67.3	67.2	67.2
Employed	133,488	135,208	135,013	135,517	134,843	135,183	134,898	134,939	135,310	135,464	135,478	135,836	135,999	135,815	135,780
Employment-population ratio[2]	64.3	64.5	64.6	64.8	64.4	64.5	64.3	64.3	64.4	64.4	64.3	64.5	64.5	64.4	64.3
Unemployed	5,880	5,655	5,692	5,597	5,730	5,574	5,648	5,785	5,537	5,536	5,658	5,653	5,956	5,936	6,088
Unemployment rate	4.2	4.0	4.0	4.0	4.1	4.0	4.0	4.1	3.9	3.9	4.0	4.0	4.2	4.2	4.3
Not in the labor force	68,385	68,836	68,348	68,102	68,798	68,786	69,181	69,211	69,314	69,378	69,441	69,254	68,934	69,275	69,304
Men, 20 years and over															
Civilian noninstitutional population[1]	91,555	92,580	92,145	92,303	92,408	92,546	92,642	92,754	92,863	92,969	93,061	93,117	93,184	93,227	93,285
Civilian labor force	79,104	70,930	70,773	70,776	70,666	70,785	70,782	71,029	71,053	71,155	71,135	71,289	71,492	71,288	71,261
Participation rate	76.7	76.6	76.8	76.7	76.5	76.5	76.4	76.6	76.5	76.5	76.4	76.6	76.7	76.5	76.4
Employed	67,761	68,580	68,445	68,473	68,315	68,489	68,495	68,710	68,728	68,774	68,683	68,848	68,916	68,761	68,534
Employment-population ratio[2]	74.0	74.1	74.3	74.2	73.9	74.0	73.9	74.1	74.0	74.0	73.8	73.9	74.0	73.8	73.5
Agriculture	2,028	2,252	2,240	2,248	2,228	2,262	2,280	2,276	2,350	2,219	2,122	2,232	2,122	2,154	2,150
Nonagricultural industries	65,517	66,328	66,205	66,225	66,087	66,227	66,215	66,434	66,378	66,555	66,561	66,616	66,795	66,607	66,383
Unemployed	2,433	2,350	2,328	2,303	2,347	2,296	2,287	2,319	2,325	2,381	2,452	2,441	2,576	2,527	2,728
Unemployment rate	3.5	3.3	3.3	3.3	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.6	3.5	3.8
Women, 20 years and over															
Civilian noninstitutional population[1]	100,158	101,078	100,713	100,809	100,929	101,007	101,111	101,209	101,321	101,448	101,533	101,612	101,643	101,686	101,779
Civilian labor force	60,840	61,565	61,573	61,856	61,582	61,561	61,535	61,265	61,486	61,528	61,625	61,819	62,126	62,220	62,412
Participation rate	60.7	60.9	61.1	61.4	61.0	60.9	60.9	60.5	60.7	60.6	60.7	60.8	61.1	61.2	61.3
Employed	58,555	59,352	59,326	59,651	59,264	59,282	59,273	58,992	59,344	59,425	59,506	59,708	59,894	59,932	60,178
Employment-population ratio[2]	58.5	58.7	58.9	59.2	58.7	58.7	58.6	58.3	58.6	58.6	58.6	58.8	58.9	58.9	59.1
Agriculture	803	818	866	871	846	829	797	808	764	748	797	822	852	839	819
Nonagricultural industries	57,752	58,535	58,460	58,780	58,418	58,453	58,476	58,184	58,580	58,677	58,709	58,886	59,042	59,093	59,359
Unemployed	2,285	2,212	2,247	2,205	2,318	2,279	2,262	2,273	2,142	2,103	2,119	2,111	2,232	2,288	2,233
Unemployment rate	3.8	3.6	3.6	3.6	3.8	3.7	3.7	3.7	3.5	3.4	3.4	3.4	3.6	3.7	3.6
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	16,040	16,042	16,196	16,104	16,034	15,991	15,974	15,972	15,977	15,960	15,983	16,014	16,063	16,113	16,108
Civilian labor force	8,333	8,369	8,359	8,482	8,329	8,411	8,229	8,430	8,308	8,317	8,376	8,381	8,337	8,243	8,195
Participation rate	52.0	52.2	51.6	52.7	51.9	52.6	51.5	52.8	52.0	52.1	52.4	52.3	51.9	51.2	50.9
Employed	7,172	7,216	7,242	7,393	7,264	7,412	7,130	7,237	7,238	7,265	7,289	7,280	7,188	7,122	7,067
Employment-population ratio[2]	44.7	45.4	44.7	45.9	45.3	46.4	44.6	45.3	45.3	45.5	45.6	45.5	44.7	44.2	43.9
Agriculture	234	235	232	241	220	222	218	233	242	274	257	220	205	143	191
Nonagricultural industries	6,938	7,041	7,010	7,152	7,044	7,190	6,912	7,004	6,996	6,991	7,032	7,060	6,983	6,980	6,876
Unemployed	1,162	1,093	1,117	1,089	1,065	999	1,099	1,193	1,070	1,052	1,087	1,101	1,149	1,121	1,127
Unemployment rate	13.9	13.1	13.4	12.8	12.8	11.9	13.4	14.2	12.9	12.6	13.0	13.1	13.8	13.6	13.8
White															
Civilian noninstitutional population[1]	173,085	174,428	173,983	174,092	174,197	174,316	174,443	174,587	174,745	174,899	175,034	175,145	175,246	175,362	175,416
Civilian labor force	116,509	117,574	117,592	117,800	117,329	117,477	117,298	117,554	117,553	117,603	117,640	117,945	118,276	118,287	118,243
Participation rate	67.3	67.4	67.6	67.7	67.4	67.4	67.2	67.3	67.3	67.2	67.2	67.3	67.5	67.5	67.4
Employed	112,235	113,475	113,435	113,710	113,240	113,493	113,201	113,378	113,464	113,584	113,509	113,811	114,015	113,902	113,853
Employment-population ratio[2]	64.8	65.1	65.2	65.3	65.0	65.1	64.9	64.9	64.9	64.9	64.8	65.0	65.1	65.0	64.9
Unemployed	4,273	4,099	4,157	4,090	4,089	3,984	4,097	4,176	4,089	4,019	4,131	4,134	4,261	4,385	4,389
Unemployment rate	3.7	3.5	3.5	3.5	3.5	3.4	3.5	3.6	3.5	3.4	3.5	3.5	3.6	3.7	3.7
Black															
Civilian noninstitutional population[1]	24,855	25,218	25,105	25,135	25,161	25,191	25,221	25,258	25,299	25,339	25,376	25,408	25,382	25,412	25,441
Civilian labor force	16,365	16,603	16,550	16,586	16,577	16,573	16,501	16,540	16,489	16,627	16,732	16,742	16,773	16,691	16,789
Participation rate	65.8	65.8	65.9	66.0	65.9	65.8	65.4	65.5	65.2	65.6	65.9	65.9	66.1	65.7	66.0
Employed	15,056	15,334	15,312	16,376	15,264	15,277	15,232	15,239	15,304	15,401	15,485	15,470	15,372	15,440	15,348
Employment-population ratio[2]	60.6	60.8	61.0	61.2	60.7	60.6	60.4	60.3	60.5	60.8	61.0	60.9	60.6	60.8	60.3
Unemployed	1,309	1,269	1,238	1,210	1,313	1,296	1,269	1,301	1,185	1,226	1,247	1,272	1,401	1,251	1,441
Unemployment rate	8.0	7.6	7.5	7.3	7.9	7.8	7.7	7.9	7.2	7.4	7.5	7.6	8.4	7.5	8.6

See footnotes at end of table.

4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Hispanic origin															
Civilian noninstitutional population[1]	21,650	22,393	22,166	22,231	22,292	22,355	22,422	22,488	22,555	22,618	22,687	22,749	22,769	22,830	22,889
Civilian labor force	14,665	15,368	15,271	15,327	15,294	15,320	15,243	15,312	15,513	15,491	15,626	15,671	15,540	15,653	15,770
Participation rate	67.7	68.6	68.9	68.9	68.6	68.5	68.0	68.1	68.8	68.5	68.9	68.9	68.2	68.6	68.9
Employed	13,720	14,492	14,340	14,463	14,411	14,456	14,384	14,439	14,647	14,711	14,686	14,772	14,612	14,673	14,782
Employment-population ratio[2]	63.4	64.7	64.7	65.1	64.6	64.7	64.2	64.2	64.9	65.0	64.7	64.9	64.2	64.3	64.6
Unemployed	945	876	931	864	883	864	859	873	866	780	940	899	927	980	988
Unemployment rate	6.4	5.7	6.1	5.6	5.8	5.6	5.6	5.7	5.6	5.0	6.0	5.7	6.0	6.3	6.3

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals becausedata for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

ERRATUM: Due to a production error, table 46, instead of the first page of table 4, appeared on page 45 of the April *Monthly Labor Review*. The mistake has been corrected in the online version of the *Review* and a correct version appears on page 117 in this issue.

5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Characteristic															
Employed, 16 years and over	133,488	135,208	135,013	135,517	134,843	135,183	134,898	134,939	135,310	135,464	135,478	135,836	135,999	135,815	135,780
Men	771,446	72,293	72,246	72,257	72,049	72,240	72,141	72,379	72,398	72,427	72,354	72,534	72,589	72,359	72,201
Women	62,042	62,915	62,767	63,260	62,794	62,943	62,757	62,560	62,912	63,037	63,124	63,302	63,410	63,456	63,578
Married men, spouse present	43,254	43,368	43,341	43,321	43,306	43,364	43,308	43,375	43,321	43,345	43,251	43,293	43,134	43,340	43,385
Married women, spouse present	33,450	33,708	33,765	33,795	33,723	33,745	33,621	33,507	33,491	33,622	33,633	33,635	34,249	34,059	34,080
Women who maintain families	8,229	8,387	8,119	8,330	8,335	8,340	8,460	8,492	8,516	8,449	8,495	8,501	8,426	8,373	8,049
Class of worker															
Agriculture:															
Wage and salary workers	1,944	2,034	2,037	2,042	2,013	2,051	2,065	2,048	2,018	2,041	2,005	2,019	1,983	1,839	1,910
Self-employed workers	1,297	1,233	1,272	1,257	1,246	1,187	1,189	1,241	1,274	1,182	1,180	1,198	1,182	1,291	1,231
Unpaid family workers	40	38	42	43	38	44	39	36	38	32	25	34	25	29	36
Nonagricultural industries:															
Wage and salary workers	121,323	123,128	122,951	123,209	122,871	123,020	122,744	122,931	123,117	123,461	123,632	123,813	124,035	124,069	123,814
Government	18,903	19,053	19,451	19,168	19,084	18,836	18,592	18,644	19,003	19,073	19,146	19,352	18,843	19,103	19,134
Private industries	102,420	104,076	103,500	104,041	103,787	104,184	104,152	104,287	104,114	104,388	104,486	104,461	105,192	104,966	104,680
Private households	933	890	967	977	934	926	821	781	824	812	827	879	859	823	881
Other	101,487	103,186	102,533	103,064	102,853	103,258	103,331	103,506	103,290	103,576	103,659	103,582	104,333	104,143	103,800
Self-employed workers	8,790	8,674	8,712	8,727	8,708	8,660	8,619	8,618	8,786	8,561	8,533	8,600	8,698	8,617	8,784
Unpaid family workers	95	101	101	96	89	74	86	114	108	136	128	121	110	142	138
Persons at work part time[1]															
All industries:															
Part time for economic reasons	3,357	3,190	3,139	3,135	3,240	3,125	3,110	3,170	33,188	3,222	3,416	3,234	3,327	3,273	3,164
Slack work or business conditions	1,968	1,927	1,836	1,862	1,935	1,858	1,871	1,980	2,051	1,909	2,183	1,964	2,035	2,043	1,914
Could only find part-time work	1,079	944	972	1,002	972	981	918	880	831	947	886	896	954	933	907
Part time for noneconomic reasons	18,758	18,722	18,723	18,606	18,513	18,444	18,579	18,704	18,595	18,758	18,896	18,993	18,568	19,021	18,647
Nonagricultural industries:															
Part time for economic reasons	3,189	3,045	3,002	3,021	3,077	2,981	2,972	3,038	3,030	3,044	3,285	3,088	3,227	3,143	3,007
Slack work or business conditions	1,861	1,835	1,770	1,791	1,831	1,760	1,773	1,901	1,940	1,808	2,082	1,882	1,971	1,970	1,828
Could only find part-time work	1,056	924	942	975	952	982	896	861	817	923	871	877	945	910	877
Part time for noneconomic reasons	18,197	18,165	18,159	18,043	17,957	17,897	18,052	18,142	18,024	18,206	18,323	18,437	18,040	18,509	18,132

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		2001												
	1998	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Characteristic															
Total, 16 years and over	4.2	4.0	4.0	4.0	4.1	4.0	4.0	4.1	3.9	3.9	4.0	4.0	4.2	4.2	4.3
Both sexes, 16 to 19 years	13.9	13.1	13.4	12.8	12.8	11.9	13.4	14.2	12.9	12.6	13.0	13.1	13.8	13.6	13.8
Men, 20 years and over	3.5	3.3	3.3	3.3	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.6	3.5	3.8
Women, 20 years and over	3.8	3.6	3.6	3.6	3.8	3.7	3.7	3.7	3.5	3.4	3.4	3.4	3.6	3.7	3.6
White, total	3.7	3.5	3.5	3.5	3.5	3.4	3.5	3.6	3.5	3.4	11.5	3.5	3.6	3.7	3.7
Both sexes, 16 to 19 years	12.0	11.4	11.8	11.6	10.7	9.9	11.5	12.0	11.4	11.2	11.7	11.5	11.7	10.9	11.6
Men, 16 to 19 years	12.6	12.3	11.6	12.9	10.9	11.7	12.5	13.1	12.2	11.8	12.4	12.2	13.3	12.6	11.8
Women, 16 to 19 years	11.3	10.4	11.9	10.1	10.5	7.9	10.4	10.8	10.6	10.5	10.9	10.7	9.8	9.2	11.2
Men, 20 years and over	3.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.9	3.0	2.9	3.2	3.2	3.3
Women, 20 years and over	3.3	3.1	3.2	3.1	3.3	3.2	3.2	3.3	3.1	3.0	3.0	3.1	3.0	3.3	3.1
Black, total	8.0	7.6	7.5	7.3	7.9	7.8	7.7	7.9	7.2	7.4	7.5	7.6	8.4	7.5	8.6
Both sexes, 16 to 19 years	27.9	24.7	24.7	23.3	24.4	25.6	26.4	26.8	24.1	23.9	21.9	26.7	27.9	28.8	28.9
Men, 16 to 19 years	30.9	26.4	22.8	23.7	27.4	31.5	25.7	31.7	26.7	27.0	22.5	30.1	26.9	31.7	27.7
Women, 16 to 19 years	25.1	23.0	26.7	22.8	21.5	19.3	27.1	22.3	21.7	21.2	21.3	23.4	28.9	25.7	30.2
Men, 20 years and over	6.7	7.0	6.7	6.7	7.1	6.9	6.8	7.2	6.5	7.0	6.9	7.3	6.9	6.6	8.5
Women, 20 years and over	6.8	6.3	6.2	5.9	6.7	6.5	6.3	6.2	5.8	5.8	6.2	5.7	7.3	5.8	6.3
Hispanic origin, total	6.4	5.7	6.1	5.6	5.8	5.6	5.6	5.7	5.6	5.0	6.0	5.7	6.0	6.3	6.3
Married men, spouse present	2.2	2.0	2.0	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.5
Married women, spouse present	2.7	2.7	2.7	2.7	2.8	2.6	2.7	2.8	2.7	2.5	2.5	2.6	2.5	2.6	2.7
Women who maintain families	6.4	5.9	6.6	6.2	6.3	6.0	7.7	6.0	5.4	5.4	5.2	5.1	6.4	6.1	6.2
Full-time workers	4.1	3.9	3.8	3.8	3.9	3.8	3.8	3.9	3.8	3.8	3.9	3.9	4.1	4.0	4.2
Part-time workers	5.0	4.8	4.9	4.7	5.1	4.9	5.1	5.0	4.6	4.5	4.5	4.6	4.9	4.8	4.8
Industry															
Nonagricultural wage and salary workers	4.3	4.1	4.3	4.1	4.1	4.0	4.1	4.1	4.0	4.0	4.0	4.0	4.3	4.5	4.5
Mining	5.7	3.9	2.7	3.0	4.1	3.9	4.5	4.3	5.0	7.1	3.5	3.6	2.2	4.6	3.5
Construction	7.0	6.4	6.6	5.4	5.9	6.0	6.0	6.4	6.4	6.5	6.9	6.5	6.8	7.0	6.2
Manufacturing	3.6	3.6	3.9	4.0	3.7	3.4	3.6	3.5	3.6	4.0	3.6	3.6	4.2	4.5	5.0
Durable goods	3.5	3.4	3.2	3.9	3.6	3.4	3.3	3.1	3.2	3.8	3.5	3.4	4.2	4.2	5.0
Nondurable goods	3.9	4.0	4.9	4.1	3.8	3.2	4.0	4.1	4.3	4.3	3.9	4.0	4.3	5.0	5.0
Transportation and public utilities	3.0	3.1	3.1	3.0	3.2	2.9	3.1	3.1	3.2	2.8	2.6	3.2	2.8	2.9	3.1
Wholesale and retail trade	5.2	5.0	5.3	5.0	5.1	5.1	5.0	5.1	4.8	4.8	4.7	4.8	5.0	5.1	5.3
Finance, insurance, and real estate	2.3	2.3	4.4	2.5	2.4	2.3	2.2	2.4	2.1	2.3	1.9	2.1	2.3	2.5	2.6
Services	4.1	3.8	4.0	3.8	3.9	3.8	3.9	3.8	3.7	3.6	3.7	3.6	4.0	4.2	4.1
Government workers	2.2	2.1	1.8	1.7	2.0	2.5	2.1	2.3	2.1	2.0	2.3	2.2	2.2	1.5	2.1
Agricultural wage and salary workers	8.9	7.5	6.0	8.3	7.4	7.2	7.2	8.0	7.9	8.8	9.4	8.9	9.0	9.2	11.3
Educational attainment[1]															
Less than a high school diploma	6.7	6.4	6.7	6.1	6.9	6.4	6.4	6.3	6.2	6.4	6.6	6.3	6.8	7.7	6.9
High school graduates, no college	3.5	3.5	3.4	3.4	3.5	3.4	3.4	3.7	3.4	3.5	3.5	3.4	3.8	3.8	3.9
Some college, less than a bachelor's degree	2.8	2.7	2.7	2.6	2.6	2.8	2.7	2.7	2.6	2.4	2.7	2.7	3.0	2.7	2.7
College graduates	1.8	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.9	1.6	1.6	1.6	1.6	1.6	2.0

[1] Data refer to persons 25 years and over.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average												2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Less than 5 weeks	2,568	2,543	2,764	2,500	2,536	2,572	2,493	2,567	2,498	2,510	2,531	2,440	2,613	2,797	2,674
5 to 14 weeks	1,832	1,803	1,743	1,835	1,901	1,776	1,811	1,832	1,750	1,755	1,796	1,852	1,977	1,669	1,992
15 weeks and over	1,480	1,309	1,300	1,274	1,325	1,260	1,319	1,373	1,247	1,311	1,317	1,326	1,371	1,490	1,517
15 to 26 weeks	755	665	655	660	670	609	650	673	618	702	713	675	731	793	814
27 weeks and over	725	644	645	614	655	651	669	700	629	609	604	651	640	697	703
Mean duration, in weeks	13.4	12.6	12.7	12.5	12.6	12.5	13.2	13.0	12.1	12.4	12.4	12.6	12.6	12.9	13.0
Median duration, in weeks	6.4	5.9	6.0	6.0	5.9	5.9	5.9	6.1	5.3	6.1	6.1	6.1	5.9	6.0	6.5

8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Job losers[1]	2,622	2,492	2,463	2,402	2,460	2,439	2,450	2,585	2,502	2,446	2,501	2,514	2,742	2,853	2,963
On temporary layoff	848	842	803	723	875	917	857	907	837	825	877	937	1,032	991	945
Not on temporary layoff	1,774	1,650	1,660	1,679	1,585	1,522	1,593	1,678	1,665	1,621	1,624	1,577	1,711	1,908	1,972
Job leavers	783	775	813	812	776	692	788	780	756	815	768	746	838	820	814
Reentrants	2,005	1,957	1,981	1,967	2,052	2,042	1,960	1,930	1,798	1,868	1,936	1,899	1,956	1,927	1,908
New entrants	469	431	428	411	477	416	412	503	429	398	429	466	446	372	382
Percent of unemployed															
Job losers[1]	44.6	44.1	43.3	43.0	42.7	43.6	43.7	44.6	45.6	44.3	44.4	44.7	45.8	47.8	48.8
On temporary layoff	14.4	14.9	14.1	12.9	15.2	16.4	15.3	15.6	15.3	14.9	15.6	16.7	17.2	15.8	16.3
Not on temporary layoff	30.2	29.2	29.2	30.0	27.5	27.2	28.4	28.9	30.4	29.3	28.8	28.0	28.6	32.0	32.6
Job leavers	13.3	13.7	14.3	14.5	13.5	12.4	14.0	13.5	13.8	14.7	13.6	13.3	14.0	13.7	13.4
Reentrants	34.1	34.6	34.8	35.2	35.6	36.5	34.9	33.3	32.8	33.8	34.4	33.8	32.7	32.3	31.4
New entrants	8.0	7.6	7.5	7.3	8.3	7.4	7.3	8.7	7.8	7.2	7.6	8.3	7.4	6.2	6.4
Percent of civilian labor force															
Job losers[1]	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.8	1.8	1.7	1.8	1.8	1.9	2.0	2.1
Job leavers	.6	.6	.6	.6	.6	.5	.6	.6	.5	.6	.5	.5	.6	.6	.6
Reentrants	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.3	1.3	1.4	1.3	1.4	1.4	1.3
New entrants	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3

[1] Includes persons who completed temporary jobs.

9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		2001										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total, 16 years and over	4.2	4.0	4.0	4.0	4.1	4.0	4.0	4.1	3.9	3.9	4.0	4.0	4.2	4.2	4.3
16 to 24 years	9.9	9.3	9.7	9.4	9.7	9.1	9.2	9.4	8.9	8.9	9.1	9.2	9.6	9.5	10.0
16 to 19 years	13.9	13.1	13.4	12.8	12.8	11.9	13.4	14.2	12.9	12.6	13.0	13.1	13.8	13.6	13.8
16 to 17 years	16.3	15.4	15.3	14.9	15.8	13.4	16.3	16.9	15.7	15.2	15.4	15.8	17.4	17.2	16.0
18 to 19 years	12.4	11.5	12.0	11.5	10.8	10.7	11.5	12.6	11.1	11.1	11.4	11.6	11.5	11.0	12.3
20 to 24 years	7.5	7.1	7.5	7.3	7.9	7.5	6.9	6.6	6.6	6.8	6.8	7.0	7.2	7.2	7.8
25 years and over	3.1	3.0	3.0	2.9	3.0	3.0	3.0	3.1	3.0	2.9	3.0	3.0	3.2	3.2	3.2
25 to 54 years	3.2	3.1	3.0	3.0	3.1	3.1	3.1	3.2	3.0	3.0	3.0	3.0	3.2	3.2	3.4
55 years and over	2.8	2.6	2.7	2.4	2.5	2.4	2.4	2.7	2.7	2.8	2.9	2.6	2.7	2.8	2.6
Men, 16 years and over	4.1	3.9	3.8	3.9	3.9	3.9	3.8	4.0	3.9	3.9	4.0	4.0	4.3	4.2	4.4
16 to 24 years	10.3	9.7	9.3	9.7	10.0	9.6	9.6	10.2	9.5	9.4	9.5	9.7	10.3	10.8	8.9
16 to 19 years	14.7	14.0	12.7	13.8	13.5	14.2	14.1	15.8	13.7	13.4	13.6	14.1	15.0	15.5	13.8
16 to 17 years	17.0	16.8	15.6	16.0	16.8	15.9	17.5	17.1	17.5	17.6	17.5	18.4	20.5	18.5	15.6
18 to 19 years	13.1	12.2	10.6	12.4	11.4	13.0	12.0	15.2	11.2	10.7	11.3	11.7	11.8	13.1	12.7
20 to 24 years	7.7	7.3	7.4	7.4	8.1	7.0	7.1	6.9	7.1	7.3	7.3	7.2	7.6	8.2	9.3
25 years and over	3.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	3.0	3.0	3.1	3.0	3.2
25 to 54 years	3.0	2.9	2.8	2.8	2.8	2.9	2.8	2.9	2.9	2.9	2.9	2.9	3.1	3.0	3.3
55 years and over	2.8	2.7	2.7	2.7	2.6	2.3	2.4	2.7	2.6	2.8	2.9	2.8	3.0	2.9	2.9
Women, 16 years and over	4.3	4.1	4.3	4.1	4.3	4.1	4.2	4.2	4.0	3.9	4.0	4.0	4.1	4.2	4.2
16 to 24 years	9.5	8.9	10.0	8.9	9.4	8.5	8.9	8.6	8.2	8.4	8.6	8.7	8.8	8.1	8.9
16 to 19 years	13.2	12.1	14.1	11.8	12.1	9.4	12.6	12.4	12.0	11.9	12.3	12.1	12.4	11.6	13.7
16 to 17 years	15.5	14.0	15.0	13.7	14.8	10.7	15.0	16.8	13.8	12.8	13.4	13.2	14.1	15.7	16.4
18 to 19 years	11.6	10.8	13.4	10.5	10.2	8.2	10.9	9.8	11.0	11.6	11.5	11.6	11.3	8.7	11.9
20 to 24 years	7.2	7.0	7.5	7.2	7.8	8.0	6.7	6.3	6.0	6.3	6.3	6.7	6.7	6.1	6.3
25 years and over	3.3	3.2	3.2	3.1	3.2	3.2	3.3	3.4	3.2	3.0	3.1	3.0	3.2	3.4	3.2
25 to 54 years	3.4	3.3	3.3	3.2	3.4	3.3	3.4	3.5	3.2	3.1	3.2	3.1	3.4	3.5	3.5
55 years and over	2.8	2.6	2.6	2.0	2.4	2.4	2.4	2.6	2.8	2.8	2.7	2.4	2.5	2.7	2.2

10. Unemployment rates by State, seasonally adjusted

State	Feb. 2000	Jan. 2001	Feb. 2001[p]	State	Feb. 2000	Jan. 2001	Feb. 2001[p]
Alabama	4.7	4.9	4.9	Missouri	3.4	3.7	3.8
Alaska	6.9	6.1	5.8	Montana	5.1	4.5	4.4
Arizona	4.1	3.9	4.0	Nebraska	3.0	2.5	2.8
Arkansas	4.7	4.3	4.4	Nevada	4.0	4.2	4.4
California	4.9	4.6	4.5	New Hampshire	3.0	2.1	2.0
Colorado	2.8	2.5	2.7	New Jersey	3.8	3.6	3.6
Connecticut	2.6	1.9	1.9	New Mexico	4.7	5.2	5.5
Delaware	4.0	4.1	3.6	New York	4.7	4.2	4.2
District of Columbia	5.6	6.1	5.6	North Carolina	3.5	4.2	4.4
Florida	3.6	3.8	3.8	North Dakota	3.2	2.3	2.6
Georgia	3.8	3.6	3.6	Ohio	4.3	4.2	3.7
Hawaii	4.7	4.1	4.4	Oklahoma	3.1	2.7	2.7
Idaho	5.0	4.5	4.6	Oregon	5.2	4.4	4.9
Illinois	4.4	4.8	4.9	Pennsylvania	4.2	4.4	4.6
Indiana	3.7	3.2	3.0	Rhode Island	4.4	3.7	3.5
Iowa	2.7	2.6	2.6	South Carolina	4.3	3.6	3.7
Kansas	3.5	3.7	3.7	South Dakota	2.4	1.8	2.1
Kentucky	4.2	4.1	4.0	Tennessee	3.7	4.3	4.1
Louisiana	5.3	5.8	5.6	Texas	4.5	3.8	3.7
Maine	4.0	2.4	2.4	Utah	3.4	3.6	3.4
Maryland	3.8	3.6	3.6	Vermont	3.0	2.7	2.8
Massachusetts	3.0	2.5	2.7	Virginia	2.3	2.1	2.3
Michigan	3.3	4.5	4.5	Washington	5.2	5.0	5.5
Minnesota	3.3	3.1	3.1	West Virginia	5.7	5.5	5.4
Mississippi	5.9	4.5	5.0	Wisconsin	3.5	3.8	4.3
				Wyoming	3.9	3.3	3.3

[p] = preliminary

11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

[In thousands]

State	Feb. 2000	Jan. 2001[p]	Feb. 2001[p]	State	Feb. 2000	Jan. 2001	Feb. 2001[p]
Alabama	1,928.5	1,936.9	1,936.4	Missouri	2,746.4	2,770.2	2,775.8
Alaska	282.1	286.2	288.1	Montana	386.2	391.8	393.6
Arizona	2,217.6	2,270.7	5,583.5	Nebraska	904.5	916.5	914.0
Arkansas	1,156.7	1,168.7	1,168.3	Nevada	1,011.0	1,039.6	1,045.5
California	14,306.3	14,713.7	14,713.7	New Hampshire	615.7	627.2	626.3
Colorado	2,174.6	2,253.0	2,257.3	New Jersey	3,964.2	4,029.1	4,033.1
Connecticut	1,683.9	1,699.8	1,701.1	New Mexico	737.8	746.2	749.6
Delaware	418.5	423.5	423..8	New York	8,565.4	8,707.0	8,720.1
District of Columbia	641.3	651.9	648.5	North Carolina	3,908.9	3,970.3	3,968.6
Florida	6,970.4	7,208.6	7,224.9	North Dakota	326.7	328.9	330.6
Georgia	3,960.8	4,037.5	4,043.7	Ohio	5,621.8	5,655.2	5,664.2
Hawaii	543.8	554.8	559.6	Oklahoma	1,469.6	1,490.9	1,491.6
Idaho	551.3	562.2	563.8	Oregon	1,594.0	1,604.2	1,609.8
Illinois	6,018.0	6,059.8	6,068.8	Pennsylvania	5,652.0	5,744.3	5,737.7
Indiana	3,002.9	2,997.4	2,993.8	Rhode Island	473.2	478.4	479.2
Iowa	1,476.4	1,485.5	1,489.1	South Carolina	1,859.3	1,892.3	1,892.8
Kansas	1,336.2	1,354.9	1,352.1	South Dakota	378.0	380.8	379.3
Kentucky	1,882.4	1,840.8	1,842.4	Tennessee	2,720.8	2,749.2	2,755.1
Louisiana	1,920.4	1,953.2	1,954.5	Texas	9,334.3	9,576.7	9,609.7
Maine	598.9	611.8	613.4	Utah	1,065.4	1,090.6	1,093.8
Maryland	2,426.5	2,473.9	2,477.8	Vermont	296.1	299.6	301.1
Massachusetts	3,285.2	3,361.9	3,356.2	Virginia	3,472.3	3,550.7	3,565.8
Michigan	4,652.1	4,679.2	4,700.0	Washington	2,681.5	2,749.2	2,747.7
Minnesota	2,657.8	2,680.3	2,688.6	West Virginia	730.6	737.7	739.6
Mississippi	1,157.8	1,146.5	1,143.3	Wisconsin	2,824.1	2,844.9	2,851.1
				Wyoming	238.5	242.7	244.9

[p] = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the data base.

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.	Jan.	Feb.[p]	Mar.[p]
TOTAL	128,786	131,418	131,009	131,419	131,590	131,647	131,607	131,528	131,723	131,789	131,842	131,878	132,167	132,307	132,221
PRIVATE SECTOR	108,616	110,846	110,462	110,752	110,578	110,845	111,001	111,018	111,232	111,325	111,437	111,443	111,657	111,718	111,636
GOODS-PRODUCING	25,482	25,662	25,738	25,725	25,684	25,700	25,756	25,644	25,639	25,665	25,635	25,569	25,641	25,554	25,487
Mining	535	538	536	539	539	539	538	537	539	542	541	540	547	550	552
Metal mining	45	44	45	45	44	44	43	44	44	44	43	44	43	42	41
Oil and gas extraction	293	304	300	303	305	306	306	304	307	309	311	311	317	321	324
Nonmetallic minerals, except fuels	112	110	111	111	110	110	110	109	108	109	109	107	108	108	108
Construction	6,404	6,687	6,726	6,694	6,666	6,668	6,670	6,675	6,720	6,745	6,734	6,717	6,874	6,881	6,893
General building contractors	1,450	1,505	1,508	1,497	1,497	1,498	1,498	1,505	1,510	1,517	1,523	1,527	1,545	1,546	1,543
Heavy construction, except building	869	886	905	899	888	877	881	882	885	892	882	867	902	910	919
Special trades contractors	4,084	4,296	4,313	4,298	4,281	4,293	4,291	4,288	4,325	4,336	4,329	4,323	4,427	4,425	4,431
Manufacturing	18,543	18,437	18,476	18,492	18,479	18,493	18,548	18,432	18,380	18,378	18,360	18,312	18,220	18,123	18,042
Production workers	12,739	12,642	12,683	12,689	12,682	12,683	12,741	12,630	12,585	12,583	12,564	12,515	12,442	12,364	12,296
Durable goods	11,103	11,085	11,094	11,104	11,106	11,120	11,161	11,087	11,052	11,052	11,058	11,037	10,952	10,900	10,841
Production workers	7,590	7,569	7,580	7,584	7,584	7,593	7,629	7,567	7,541	7,542	7,546	7,520	7,453	7,411	7,360
Lumber and wood products	828	821	830	830	828	827	825	818	816	812	807	802	796	793	788
Furniture and fixtures	548	555	555	557	558	558	564	555	556	555	554	552	547	541	539
Stone, clay, and glass products	563	566	568	567	566	568	571	566	565	564	563	561	567	562	560
Primary metal industries	700	695	701	699	699	699	698	695	691	691	690	683	676	671	666
Fabricated metal products	1,517	1,532	1,528	1,534	1,535	1,540	1,539	1,539	1,534	1,533	1,535	1,530	1,517	1,504	1,493
Industrial machinery and equipment	2,141	2,128	2,124	2,126	2,125	2,130	2,137	2,133	2,12[r]	2,124	2,127	2,124	2,118	2,014	2,088
Computer and office equipment	370	363	366	364	360	360	361	363	361	361	361	362	363	360	361
Electronic and other electrical equipment	1,670	1,704	1,682	1,691	1,693	1,697	1,719	1,718	1,714	1,719	1,724	1,728	1,725	1,715	1,708
Electronic components and accessories	636	667	646	651	654	661	670	675	681	687	694	696	697	695	691
Transportation equipment	1,884	1,841	1,865	1,859	1,863	1,864	1,863	1,818	1,813	1,812	1,814	1,813	1,760	1,768	1,761
Motor vehicles and equipment	1,019	1,011	1,028	1,026	1,026	1,030	1,029	993	993	991	989	988	942	951	942
Aircraft and parts	495	459	467	461	463	460	460	456	457	456	455	456	452	454	457
Instruments and related products	856	847	844	844	845	844	849	849	847	847	850	851	855	854	851
Miscellaneous manufacturing industries	395	396	397	397	394	393	396	396	395	395	394	393	391	388	387
Nondurable goods	7,440	7,353	7,382	7,388	7,373	7,373	7,387	7,345	7,328	7,326	7,302	7,275	7,268	7,223	7,201
Production workers	5,149	5,073	5,103	5,105	5,098	5,090	5,112	5,063	5,044	5,041	5,018	4,995	4,989	4,953	4,936
Food and kindred products	1,677	1,672	1,671	1,678	1,675	1,679	1,680	1,670	1,661	1,673	1,667	1,666	1,671	1,670	1,669
Tobacco products	39	36	35	37	37	37	37	34	37	37	37	37	36	35	36
Textile mill products	560	541	549	548	545	542	544	542	539	536	530	525	521	514	511
Apparel and other textile products	692	650	665	665	660	652	656	644	639	633	630	625	626	615	611
Paper and allied products	668	661	662	662	661	663	662	660	660	660	657	656	654	649	648
Printing and publishing	1,553	1,556	1,551	1,554	1,552	1,558	1,561	1,560	1,560	1,559	1,557	1,554	1,555	1,549	1,545
Chemicals and allied products	1,034	1,027	1,031	1,030	1,028	1,028	1,026	1,024	1,024	1,023	1,024	1,022	1,022	1,017	1,016
Petroleum and coal products	134	131	132	132	132	132	131	132	132	131	130	128	127	128	128
Rubber and miscellaneous plastics products	1,006	1,005	1,010	1,007	1,008	1,008	1,014	1,005	1,002	1,001	998	991	986	977	969
Leather and leather products	78	74	76	75	75	74	76	74	74	73	72	71	70	69	68
SERVICE-PRODUCING	103,304	105,756	105,271	105,694	105,906	105,947	105,851	105,884	106,084	106,124	106,207	106,309	106,526	106,753	106,734
Transportation and public utilities	6,826	6,993	6,953	6,970	6,962	6,985	7,010	6,941	7,037	7,046	7,060	7,086	7,077	7,108	7,113
Transportation	4,409	4,524	4,492	4,509	4,501	4,510	4,536	4,549	4,549	4,549	4,563	4,581	4,572	4,596	4,603
Railroad transportation	230	220	222	221	219	217	219	221	219	219	220	217	214	216	215
Local and interurban passenger transit	485	498	494	498	498	493	502	503	500	498	500	500	500	502	504
Trucking and warehousing	1,805	1,839	1,833	1,839	1,834	1,834	1,846	1,845	1,845	1,843	1,839	1,847	1,852	1,854	1,859
Water transportation	187	201	197	200	200	202	199	204	206	206	206	206	205	205	206
Transportation by air	1,227	1,282	1,268	1,270	1,269	1,279	1,282	1,288	1,291	1,297	1,310	1,321	1,312	1,329	1,328
Pipelines, except natural gas	13	13	12	12	12	12	13	12	12	12	13	12	12	12	12
Transportation services	463	472	466	469	469	473	475	476	476	474	475	478	477	478	479
Communications and public utilities	2,416	2,469	2,461	2,461	2,461	2,475	2,474	2,392	2,488	2,497	2,497	2,505	2,505	2,512	2,510
Communications	1,552	1,612	1,602	1,604	1,606	1,619	1,618	1,537	1,632	1,641	1,644	1,653	1,651	1,658	1,659
Electric, gas, and sanitary services	865	857	859	857	855	856	856	855	856	856	853	852	854	854	851
Wholesale trade	6,924	7,054	7,017	7,055	7,048	7,049	7,050	7,062	7,070	7,087	7,093	7,085	7,074	7,071	7,069
Retail trade	22,788	23,136	23,027	23,197	23,064	23,122	23,196	23,191	23,179	23,193	23,238	23,245	23,272	23,350	23,304
Building materials and garden supplies	989	1,022	1,034	1,032	1,025	1,018	1,018	1,021	1,019	1,022	1,020	1,019	1,015	1,015	1,012
General merchandise stores	2,771	2,753	2,756	2,791	2,744	2,741	2,727	2,740	2,739	2,740	2,770	2,742	2,702	2,728	2,721
Department stores	2,431	2,403	2,409	2,443	2,388	2,386	2,373	2,393	2,389	2,389	2,419	2,411	2,364	2,387	2,368

See footnotes at end of table.

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]	Mar.[P]
Food stores	3,495	3,515	3,502	3,522	3,516	3,515	3,519	3,522	3,522	3,519	3,516	3,523	3,533	3,544	3,543
Automotive dealers and service stations	2,369	2,414	2,407	2,410	2,408	2,412	2,411	2,418	2,424	2,431	2,430	2,428	2,426	2,427	2,421
New and used car dealers	1,079	1,111	1,105	1,106	1,107	1,110	1,111	1,115	1,118	1,120	1,120	1,121	1,122	1,122	1,122
Apparel and accessory stores	1,174	1,199	1,188	1,195	1,195	1,197	1,206	1,202	1,209	1,205	1,211	1,217	1,214	1,230	1,226
Furniture and home furnishings stores	1,082	1,118	1,111	1,113	1,113	1,118	1,119	1,121	1,122	1,128	1,130	1,137	1,136	1,134	1,137
Eating and drinking places	7,940	8,065	8,000	8,097	8,028	8,071	8,132	8,099	8,076	8,073	8,097	8,111	8,132	8,153	8,128
Miscellaneous retail establishments	2,969	3,050	3,029	3,037	3,035	3,050	3,064	3,068	3,068	3,075	3,064	3,068	3,104	3,119	3,116
Finance, insurance, and real estate	7,569	7,618	7,621	7,610	7,600	7,588	7,586	7,608	7,622	7,638	7,647	7,661	7,676	7,689	7,706
Finance	3,691	3,719	3,713	3,709	3,703	3,705	3,708	3,717	3,729	3,737	3,739	3,747	3,748	3,753	3,765
Depository institutions	2,061	2,043	2,054	2,052	2,044	2,042	2,036	2,037	2,038	2,034	2,033	2,035	2,033	2,033	2,037
Commercial banks	1,476	1,455	1,466	1,464	1,456	1,454	1,449	1,450	1,450	1,446	1,445	1,445	1,441	1,442	1,443
Savings institutions	252	241	243	243	243	242	240	240	239	238	237	237	237	236	236
Nondepository institutions	710	689	692	686	684	682	683	683	687	689	690	689	691	697	701
Security and commodity brokers	688	745	728	732	736	741	748	753	759	766	768	773	775	776	777
Holding and other investment offices	231	242	239	239	239	240	241	244	245	248	248	250	249	247	250
Insurance	2,371	2,362	2,373	2,365	2,361	2,359	2,354	2,358	2,353	2,355	2,362	2,362	2,369	2,376	2,377
Insurance carriers	1,611	1,592	1,605	1,597	1,594	1,593	1,585	1,587	1,582	1,581	1,587	1,585	1,591	1,598	1,597
Insurance agents, brokers, and service	761	770	768	768	767	766	769	771	771	774	775	777	778	778	780
Real estate	1,507	1,537	1,535	1,536	1,536	1,524	1,524	1,533	1,540	1,546	1,546	1,552	1,559	1,560	1,564
Services[1]	39,027	40,384	40,090	40,195	40,220	40,401	40,403	40,572	40,685	40,696	40,764	40,797	40,917	40,946	40,957
Agricultural services	766	800	812	801	790	788	794	799	801	806	810	806	826	823	825
Hotels and other lodging places	1,848	1,910	1,885	1,902	1,904	1,922	1,925	1,921	1,923	1,924	1,939	1,948	1,949	1,955	1,959
Personal services	1,233	1,276	1,265	1,272	1,262	1,271	1,273	1,285	1,285	1,285	1,288	1,292	1,285	1,285	1,293
Business services	9,267	9,746	9,681	9,735	9,715	9,773	9,768	9,800	9,853	9,829	9,823	9,751	9,775	9,744	9,673
Services to buildings	985	1,001	1,004	1,001	996	997	1,002	1,000	1,001	1,000	1,004	1,009	1,016	1,017	1,017
Personnel supply services	3,601	3,834	3,817	3,885	3,855	3,873	3,851	3,865	3,891	3,861	3,845	3,744	3,722	3,688	3,612
Help supply services	3,228	3,419	3,418	3,485	3,440	3,444	3,433	3,436	3,463	3,432	3,413	3,338	3,302	3,273	3,190
Computer and data processing services	1,831	1,941	1,915	1,927	1,929	1,933	1,950	1,951	1,955	1,966	1,928	1,996	1,999	2,010	2,021
Auto repair services and parking	1,184	1,198	1,192	1,195	1,192	1,191	1,194	1,198	1,200	1,206	1,206	1,215	1,228	1,224	1,230
Miscellaneous repair services	377	384	384	383	383	384	384	384	385	386	386	383	384	383	383
Motion pictures	610	631	630	634	632	635	634	636	631	630	631	639	640	638	635
Amusement and recreation services	1,660	1,771	1,729	1,752	1,755	1,789	1,795	1,808	1,785	1,791	1,793	1,787	1,809	1,806	1,807
Health services	9,989	10,139	10,091	10,093	10,104	10,116	10,143	10,161	10,178	10,191	10,208	10,229	10,260	10,287	10,313
Offices and clinics of medical doctors	1,877	1,933	1,920	1,925	1,928	1,928	1,930	1,935	1,945	1,950	1,953	1,960	1,966	1,973	1,976
Nursing and personal care facilities	1,785	1,791	1,791	1,789	1,788	1,786	1,787	1,793	1,791	1,793	1,793	1,796	1,801	1,803	1,809
Hospitals	3,982	4,019	4,004	3,999	4,005	4,008	4,018	4,021	4,029	4,032	4,045	4,053	4,063	4,074	4,087
Home health care services	636	642	639	641	641	642	645	646	645	645	644	642	644	642	645
Legal services	997	1,011	1,007	1,004	1,006	1,009	1,012	1,014	1,014	1,016	1,014	1,015	1,018	1,021	1,024
Educational services	2,276	2,355	2,329	2,329	2,356	2,374	2,374	2,395	2,388	2,357	2,365	2,389	2,388	2,409	2,421
Social services	2,800	2,963	2,929	2,940	2,946	2,945	2,919	2,955	3,001	3,019	3,032	3,054	3,062	3,072	3,088
Child day care services	695	764	749	753	758	760	768	774	779	784	787	792	795	799	804
Residential care	775	823	810	812	816	820	826	827	833	838	840	845	848	850	852
Museums and botanical and zoological gardens	98	102	101	102	101	103	103	103	103	103	104	104	104	105	105
Membership organizations	2,425	2,441	2,440	2,439	2,438	2,441	2,429	2,433	2,445	2,446	2,450	2,450	2,450	2,448	2,453
Engineering and management services	3,254	3,413	3,369	3,368	3,390	3,415	3,411	3,435	3,449	3,463	3,471	3,486	3,494	3,500	3,503
Engineering and architectural services	953	1,002	985	987	995	1,005	1,007	1,010	1,012	1,015	1,015	1,021	1,030	1,033	1,030
Management and public relations	1,036	1,107	1,085	1,088	1,096	1,110	1,107	1,118	1,123	1,129	1,137	1,139	1,142	1,143	1,146
Government	20,170	20,572	20,547	20,667	21,012	20,802	20,606	20,510	20,491	20,464	20,405	20,435	20,510	20,589	20,585
Federal	2,669	2,777	2,816	2,885	3,238	3,092	2,819	2,657	2,627	2,625	2,615	2,566	2,616	2,619	2,612
Federal, except Postal Service	1,796	1,917	1,951	2,022	2,374	2,230	1,954	1,790	1,764	1,762	1,760	1,753	1,755	1,755	1,750
State	4,695	4,746	4,733	4,744	4,737	4,716	4,774	4,765	4,776	4,755	4,748	4,769	4,759	4,794	4,794
Education	1,968	1,988	1,982	1,990	1,983	1,967	1,994	2,002	2,009	1,988	1,977	1,990	1,982	2,008	2,007
Other State government	2,727	2,758	2,751	2,754	2,754	2,749	2,750	2,763	2,767	2,767	2,771	2,779	2,777	2,786	2,787
Local	12,806	13,049	12,998	13,038	13,037	12,994	13,043	13,088	13,088	13,084	13,042	13,100	13,135	13,176	13,179
Education	7,272	7,391	7,373	7,408	7,395	7,361	7,394	7,411	7,396	7,391	7,377	7,387	7,406	7,432	7,431
Other local government	5,534	5,658	5,625	5,630	5,642	5,633	5,649	5,677	5,692	5,693	5,665	5,713	5,729	5,744	5,748

[1] Includes other industries not shown separately.

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

13. Average weekly hours of production or nonsupervisory workers on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]	Mar.[P]
PRIVATE SECTOR	34.5	34.5	34.5	34.6	34.4	34.5	34.4	34.3	34.4	34.4	34.3	34.1	34.3	34.2	34.3
GOODS-PRODUCING	41.0	40.9	41.2	41.5	40.9	40.9	41.1	40.8	40.7	40.9	40.5	39.8	40.4	40.0	40.3
MINING	43.8	44.9	44.7	45.3	44.1	44.7	45.3	44.6	45.2	45.6	44.9	44.6	45.2	44.9	46.0
MANUFACTURING	41.7	41.5	41.7	42.2	41.4	41.6	41.7	41.4	41.3	41.4	41.2	40.4	40.9	40.7	40.7
Overtime hours	4.6	4.5	4.6	4.9	4.5	4.6	4.6	4.5	4.4	4.5	4.3	3.9	4.1	3.9	3.8
Durable goods	42.2	42.0	42.3	42.8	42.0	42.2	42.4	41.9	41.8	41.9	41.7	40.7	41.1	40.9	41.0
Overtime hours	4.8	4.7	4.8	5.1	4.7	4.8	4.7	4.6	4.5	4.6	4.4	3.9	4.0	3.8	3.8
Lumber and wood products	41.2	40.7	40.9	41.2	40.7	40.8	41.1	40.4	40.5	40.6	40.6	39.8	39.7	40.3	40.4
Furniture and fixtures	40.3	39.8	40.2	40.6	40.3	39.9	39.7	39.4	39.4	39.7	39.4	38.8	39.1	39.2	38.7
Stone, clay, and glass products	43.5	43.2	43.4	43.6	43.0	42.9	43.7	43.2	43.1	43.2	42.7	41.7	42.4	42.2	42.6
Primary metal industries	44.2	44.0	44.4	44.9	43.8	43.9	44.3	43.7	43.7	43.8	43.6	42.5	42.6	42.2	42.1
Blast furnaces and basic steel products	44.8	44.7	45.2	45.0	44.7	45.0	45.2	44.4	44.5	44.2	44.1	43.2	43.0	42.7	43.2
Fabricated metal products	42.2	42.2	42.5	43.0	42.3	42.4	42.6	42.1	42.0	42.1	41.7	40.6	41.4	41.2	41.2
Industrial machinery and equipment	42.2	42.2	42.3	42.9	42.2	42.5	42.6	42.2	42.1	42.1	42.0	41.2	41.9	41.4	41.4
Electronic and other electrical equipment	41.4	41.4	41.8	42.2	41.3	41.4	41.9	41.0	41.2	41.2	40.9	40.4	40.6	40.4	40.1
Transportation equipment	43.8	43.4	43.7	44.3	43.2	44.0	43.9	43.4	42.9	43.1	42.9	40.8	41.5	41.2	41.8
Motor vehicles and equipment	45.0	44.2	44.6	45.5	44.2	45.3	44.5	44.5	43.6	44.0	43.2	40.1	40.9	40.4	41.2
Instruments and related products	41.5	41.2	41.2	41.6	41.2	41.3	41.6	41.1	41.1	41.2	41.0	40.4	40.7	40.6	40.7
Miscellaneous manufacturing	39.8	39.4	39.4	39.8	39.3	39.4	39.7	39.4	39.3	39.3	39.1	38.8	39.3	39.1	38.9
Nondurable goods	40.9	40.7	40.9	41.3	40.6	40.7	40.7	40.6	40.6	40.6	40.4	40.0	40.5	40.2	40.3
Overtime hours	4.4	4.3	4.3	4.6	4.3	4.3	4.3	4.2	4.3	4.3	4.1	3.9	4.1	3.9	3.9
Food and kindred products	41.8	41.4	41.6	41.9	41.2	41.5	41.2	41.5	41.4	41.4	41.2	40.7	41.3	41.1	41.1
Textile mill products	40.9	41.1	41.6	41.9	41.1	41.1	41.2	40.7	41.0	40.9	40.5	40.5	40.5	39.9	40.2
Apparel and other textile products	37.5	37.2	37.8	38.0	37.1	37.0	37.3	36.9	36.8	36.9	36.8	36.3	36.5	36.1	36.3
Paper and allied products	43.5	42.8	43.2	43.6	42.8	42.8	42.4	42.4	42.7	42.5	42.6	41.9	42.7	42.5	42.7
Printing and publishing	38.2	38.1	38.2	38.5	38.0	38.2	38.1	37.9	38.1	38.2	38.0	37.7	38.1	37.8	37.7
Chemicals and allied products	43.0	42.8	42.6	42.9	42.7	42.9	43.4	43.0	42.9	43.0	42.6	42.4	43.0	42.8	42.9
Rubber and miscellaneous plastics products	41.7	41.3	41.5	42.1	41.3	41.4	41.4	41.2	41.1	41.1	41.0	40.1	40.9	40.4	40.4
Leather and leather products	37.8	37.8	38.0	38.9	38.2	37.8	37.1	37.1	37.4	37.4	38.1	37.1	38.0	37.5	37.6
SERVICE-PRODUCING	32.8	32.8	32.8	32.8	32.7	32.9	32.7	32.7	32.8	32.7	32.8	32.7	32.8	32.8	32.8
TRANSPORTATION AND PUBLIC UTILITIES	38.7	38.5	38.3	38.7	38.4	38.4	38.8	38.2	38.5	38.6	38.5	38.7	38.7	38.4	38.2
WHOLESALE TRADE	38.3	38.5	38.6	38.6	38.6	38.6	38.5	38.3	38.6	38.5	38.6	38.4	38.5	38.3	38.5
RETAIL TRADE	29.0	28.9	29.0	28.8	28.8	29.0	28.8	28.8	28.8	28.8	28.9	28.7	29.1	28.9	28.8

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry, seasonally adjusted

Industry	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]	Mar.[P]
PRIVATE SECTOR (in current dollars)	$ 13.24	$ 13.74	$13.58	$13.64	$13.66	$13.70	$13.75	$13.80	$13.83	$13.88	$13.96	$14.02	$14.02	$14.11	$14.17
Goods-producing	14.84	15.40	15.25	15.30	15.29	15.34	15.40	15.45	15.46	15.57	15.66	15.63	15.71	15.76	15.83
Mining	17.09	17.14	17.27	17.26	17.25	17.24	17.23	17.05	17.09	17.08	17.13	17.08	17.01	17.14	17.25
Construction	17.18	17.86	17.67	17.78	17.75	17.77	17.90	17.93	17.96	18.00	18.20	18.14	18.33	18.36	18.43
Manufacturing	13.91	14.38	14.23	14.28	14.27	14.36	14.39	14.43	14.43	14.56	14.63	14.60	14.59	14.67	14.70
Excluding overtime	13.18	13.64	13.47	13.49	13.53	13.60	13.64	13.69	13.73	13.81	13.90	13.93	13.89	13.99	14.04
Service-producing	12.73	13.22	13.05	13.11	13.15	13.19	13.23	13.28	13.33	13.36	13.44	13.53	13.51	13.61	13.67
Transportation and public utilities	15.69	16.22	16.04	16.12	16.22	16.28	16.17	16.26	16.30	16.38	16.42	16.51	16.51	16.63	16.66
Wholesale trade	14.58	15.18	14.90	15.03	15.02	15.16	15.22	15.24	15.32	15.36	15.46	15.57	15.51	15.63	15.71
Retail trade	9.08	9.45	9.35	9.39	9.39	9.43	9.45	9.49	9.54	9.56	9.60	9.66	9.61	9.68	9.70
Finance, insurance, and real estate	14.62	15.07	14.95	14.98	15.01	15.05	15.03	15.12	15.19	15.18	15.27	15.34	15.43	15.57	15.64
Services	13.36	13.88	13.69	13.74	13.79	13.82	13.89	13.94	13.97	14.00	14.12	14.20	14.21	14.31	14.36
PRIVATE SECTOR (in constant (1982) dollars)	7.86	7.88	7.83	7.87	7.87	7.85	7.86	7.90	7.87	7.89	7.91	7.93	7.89	7.92	7.95

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

15. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]	Mar.[P]
PRIVATE SECTOR	$13.24	$13.74	$13.59	$13.69	$13.64	$13.62	$13.68	$13.67	$13.88	$13.96	$13.98	$14.03	$14.09	$14.15	$14.18
MINING	17.09	17.14	17.28	17.29	17.19	17.09	17.13	16.94	17.05	17.02	17.06	17.17	17.22	17.27	17.31
CONSTRUCTION	17.18	17.86	17.54	17.66	17.71	17.74	17.95	18.04	18.16	18.21	18.16	18.21	18.21	18.26	18.30
MANUFACTURING	13.91	14.38	14.22	14.28	14.27	14.34	14.37	14.37	14.50	14.53	14.62	14.68	14.62	14.65	14.69
Durable goods	14.40	14.93	14.76	14.82	14.80	14.90	14.86	14.93	15.07	15.13	15.22	15.26	15.16	15.20	15.27
Lumber and wood products	11.47	11.80	11.62	11.73	11.74	11.82	11.87	11.83	11.88	11.91	11.89	11.96	11.93	11.92	11.94
Furniture and fixtures	11.23	11.75	11.59	11.64	11.69	11.73	11.80	11.82	11.88	11.92	11.94	12.01	11.99	12.03	12.05
Stone, clay, and glass products	13.87	14.32	14.03	14.23	14.28	14.36	14.42	14.41	14.53	14.56	14.51	14.50	14.48	14.54	14.56
Primary metal industries	15.83	16.50	16.34	16.51	16.40	16.52	16.68	16.57	16.65	16.55	16.64	16.64	16.63	16.56	16.65
Blast furnaces and basic steel products	18.81	19.46	19.49	19.72	19.46	19.62	19.78	19.56	19.58	19.28	19.27	19.22	19.48	19.25	19.29
Fabricated metal products	13.48	13.86	13.69	13.75	13.75	13.82	13.82	13.90	14.02	14.03	14.08	14.12	14.09	14.11	14.14
Industrial machinery and equipment	15.02	15.63	15.43	15.42	15.45	15.51	15.61	15.66	15.84	15.88	15.93	16.04	16.03	16.04	16.07
Electronic and other electrical equipment	13.46	13.86	13.70	13.70	13.65	13.72	13.79	13.81	13.84	13.88	13.93	14.05	14.00	14.02	14.09
Transportation equipment	18.04	19.04	18.70	18.82	18.79	19.01	18.66	19.02	19.30	19.52	19.82	19.70	19.30	19.44	19.58
Motor vehicles and equipment	18.41	19.58	19.17	19.36	19.35	19.62	19.07	19.58	19.87	20.19	20.57	20.36	19.81	20.02	20.19
Instruments and related products	14.17	14.62	14.40	14.40	14.44	14.49	14.65	14.65	14.80	14.85	14.91	15.06	14.95	14.95	15.06
Miscellaneous manufacturing	11.30	11.65	11.55	11.58	11.59	11.60	11.65	11.60	11.70	11.77	11.78	11.91	11.90	11.91	11.91
Nondurable goods	13.16	13.53	13.37	13.45	13.43	13.48	13.61	13.52	13.63	13.63	13.71	13.80	11.92	11.98	12.03
Food and kindred products	12.09	12.41	12.27	12.36	12.36	12.39	12.46	12.40	12.50	12.44	12.57	12.66	13.79	13.80	13.81
Tobacco products	19.07	19.07	19.10	19.71	20.40	20.87	21.08	20.95	18.51	17.98	18.40	18.54	12.63	12.57	12.61
Textile mill products	10.71	10.95	10.86	10.94	10.91	10.91	10.97	10.97	11.05	11.01	11.04	11.02	11.05	11.03	11.01
Apparel and other textile products	8.86	9.09	9.05	9.05	9.05	9.07	9.06	9.09	9.16	9.16	9.16	9.21	9.23	9.22	9.31
Paper and allied products	15.94	16.21	16.00	16.15	16.12	16.18	16.29	16.18	16.31	16.36	16.36	16.54	16.43	16.41	16.46
Printing and publishing	13.84	14.30	14.18	14.20	14.15	14.15	14.29	14.29	14.48	14.47	14.52	14.58	14.55	14.58	14.58
Chemicals and allied products	17.38	17.94	17.63	17.77	17.80	17.91	18.17	17.94	18.07	18.09	18.17	18.33	18.24	18.32	18.25
Petroleum and coal products	21.39	21.47	22.24	21.77	21.34	21.19	21.24	21.01	21.14	21.11	21.31	21.68	21.65	21.98	21.78
Rubber and miscellaneous plastics products	12.36	12.77	12.58	12.67	12.65	12.72	12.84	12.81	12.87	12.89	12.95	13.03	13.05	13.07	12.97
Leather and leather products	9.77	10.12	10.01	10.13	10.05	10.08	10.08	10.15	10.25	10.21	10.18	10.22	10.28	10.18	10.34
TRANSPORTATION AND PUBLIC UTILITIES	15.69	16.22	16.02	16.15	16.13	16.17	16.19	16.22	16.31	16.38	16.43	16.53	16.56	16.65	16.63
WHOLESALE TRADE	14.58	15.18	14.83	15.14	14.99	15.04	15.25	15.17	15.32	15.45	15.46	15.59	15.57	15.65	15.61
RETAIL TRADE	9.08	9.45	9.37	9.42	9.39	9.38	9.38	9.40	9.57	9.58	9.60	9.65	9.68	9.71	9.72
FINANCE, INSURANCE, AND REAL ESTATE	14.62	15.07	14.97	15.12	15.02	14.93	15.01	14.99	15.12	15.24	15.25	15.32	15.45	15.63	15.67
SERVICES	13.36	13.88	13.77	13.83	13.76	13.68	13.74	13.70	13.96	14.07	14.17	14.29	14.35	14.42	14.43

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]	Mar.[P]
PRIVATE SECTOR															
Current dollars	$456.78	$474.03	$464.78	$473.67	$467.85	$471.25	$477.43	$474.35	$478.86	$484.41	$478.12	$479.83	$477.65	$ 479.69	$ 482.12
Seasonally adjusted	–	–	468.51	471.94	469.90	472.65	473.00	473.34	475.75	477.47	478.83	478.08	480.89	482.56	486.03
Constant (1982) dollars	271.25	271.96	268.19	273.17	269.50	269.90	273.13	271.52	272.23	275.08	271.04	272.32	269.55	269.64	270.70
MINING	748.54	769.59	758.59	776.32	763.24	770.76	775.99	762.30	784.30	784.62	767.70	770.93	769.73	770.24	780.68
CONSTRUCTION	671.74	701.90	680.55	692.27	701.32	702.50	723.39	725.21	726.40	730.22	697.34	686.52	686.52	679.27	700.89
MANUFACTURING															
Current dollars	580.05	596.77	590.13	595.48	590.78	597.98	590.61	594.92	604.65	604.45	608.19	604.82	595.03	591.86	596.41
Constant (1982) dollars	344.45	342.38	340.53	343.41	340.31	342.49	337.88	340.54	343.75	343.24	344.78	343.26	335.80	332.69	334.87
Durable goods	607.68	627.06	622.87	628.37	623.08	630.27	618.18	625.57	635.95	635.46	639.24	634.82	621.56	618.64	624.54
Lumber and wood products	472.56	480.26	470.61	482.10	480.17	485.80	483.11	483.85	485.89	487.12	482.73	478.40	468.85	469.65	477.60
Furniture and fixtures	452.57	467.65	462.44	464.44	465.26	468.03	462.56	470.44	477.58	475.61	474.02	480.40	467.61	463.16	462.72
Stone, clay, and glass products	603.35	618.62	596.28	614.74	621.18	624.66	631.60	631.16	637.87	637.73	623.93	607.55	596.58	597.59	608.61
Primary metal industries	699.69	726.00	723.86	734.70	721.60	728.53	725.58	720.80	730.94	721.58	730.50	720.51	710.10	698.83	700.97
Blast furnaces and basic steel products	842.69	869.86	875.10	891.34	873.75	882.90	888.12	866.51	871.31	844.46	855.59	836.07	837.64	820.05	829.47
Fabricated metal products	568.86	584.89	577.72	583.00	581.63	587.35	576.29	585.19	594.45	593.47	594.18	588.80	581.92	576.69	579.74
Industrial machinery and equipment	633.84	659.59	654.23	655.35	653.54	659.18	654.06	657.72	666.86	668.55	672.25	676.89	673.26	664.06	666.91
Electronic and other electrical equipment	557.24	571.32	571.29	569.92	561.02	569.38	566.77	566.21	575.74	574.63	578.10	583.08	568.40	563.60	563.60
Transportation equipment	790.15	826.34	819.06	829.96	817.37	836.44	781.85	819.76	839.55	847.17	858.21	831.34	799.02	798.98	820.40
Motor vehicles and equipment	828.45	865.44	860.73	880.88	866.88	888.79	800.94	861.52	880.24	890.38	896.85	851.05	808.25	810.81	835.87
Instruments and related products	588.06	602.34	593.28	594.72	592.04	596.99	600.65	600.65	608.28	610.34	617.27	621.98	609.96	609.96	612.94
Miscellaneous manufacturing	449.74	459.01	456.23	456.25	454.33	458.20	453.19	458.20	464.49	467.27	466.49	470.45	463.69	466.02	469.17
Nondurable goods	538.24	550.67	542.82	548.76	543.92	549.98	549.84	548.91	558.83	556.10	560.74	561.66	555.74	550.62	553.78
Food and kindred products	505.36	513.77	501.84	506.76	506.76	512.95	513.35	517.08	527.50	519.99	525.43	525.39	517.83	506.57	510.71
Tobacco products	762.80	758.99	741.08	782.49	811.92	836.89	832.66	842.19	764.46	719.20	732.32	739.75	688.26	712.14	741.26
Textile mill products	438.04	450.05	450.69	456.20	448.40	451.67	444.29	448.67	454.16	452.51	451.54	451.82	447.53	438.99	442.60
Apparel and other textile products	332.25	338.15	342.09	341.19	336.66	339.22	333.41	336.33	338.00	338.92	338.00	338.93	333.20	332.84	338.88
Paper and allied products	693.39	693.79	686.40	696.07	686.71	692.50	687.44	681.18	701.33	700.21	705.12	707.91	703.20	690.86	697.90
Printing and publishing	528.69	544.83	540.26	542.44	533.46	534.87	540.16	543.02	557.48	555.65	559.02	558.41	548.54	546.75	549.67
Chemicals and allied products	747.34	767.83	749.28	757.00	756.50	768.34	779.49	769.63	778.82	781.49	783.13	791.86	780.67	780.43	781.10
Petroleum and coal products	921.91	948.97	969.66	966.59	919.75	923.88	955.80	926.54	957.64	964.73	961.08	958.26	998.00	1,026.47	1,001.88
Rubber and miscellaneous plastics products	515.41	527.40	520.81	528.34	523.71	529.15	522.59	525.21	532.82	529.78	533.54	534.23	531.14	526.72	522.69
Leather and leather products	369.31	382.54	379.38	388.99	384.92	387.07	365.90	383.67	388.48	383.90	389.89	383.25	383.44	379.71	387.75
TRANSPORTATION AND PUBLIC UTILITIES	607.20	624.47	608.76	626.62	616.17	622.55	634.65	627.71	631.20	638.82	632.56	638.06	#######	636.03	630.28
WHOLESALE TRADE	558.41	584.43	566.51	588.95	575.62	579.04	591.70	581.01	589.82	597.92	595.21	598.66	591.66	594.70	594.74
RETAIL TRADE	263.32	273.11	267.98	272.24	270.43	274.83	279.52	277.30	275.62	276.86	274.56	278.89	272.98	275.76	276.05
FINANCE, INSURANCE, AND REAL ESTATE	529.24	547.04	537.42	554.90	539.22	540.47	550.87	539.64	545.83	557.78	547.48	553.05	556.20	565.81	564.12
SERVICES	435.54	453.88	447.53	453.62	445.82	447.34	453.42	450.73	453.70	461.50	461.94	464.43	463.51	470.09	468.98

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision. Dash indicates data not available

17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.
	Private nonfarm payrolls, 356 industries											
Over 1-month span:												
1998	63.2	56.6	60.5	58.7	58.3	59.7	53.9	58.1	56.2	53.8	59.0	57.4
1999	54.1	58.8	53.9	59.6	52.8	57.9	58.8	53.8	57.3	60.7	60.8	59.0
2000	60.8	54.1	60.7	56.5	45.9	56.2	58.7	51.4	53.7	55.2	50.6	53.4
2001	52.4	47.3	45.1	–	–	–	–	–	–	–	–	–
Over 3-month span:												
1998	64.3	66.6	63.2	66.3	63.6	58.0	57.4	57.9	59.7	58.1	58.6	59.4
1999	58.3	57.3	58.4	54.4	57.3	58.8	58.1	60.7	59.6	63.5	64.3	63.1
2000	61.0	62.6	61.9	57.4	56.7	58.3	57.9	58.4	50.8	52.1	52.9	52.8
2001	50.6	46.5	–	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1998	69.8	67.4	65.2	61.8	62.9	61.4	59.0	58.4	57.4	59.7	59.3	59.1
1999	60.0	58.0	57.6	58.6	54.4	59.7	60.4	62.1	64.0	62.8	65.2	64.6
2000	65.6	60.8	61.0	61.9	59.3	56.0	54.4	57.2	54.5	51.5	50.7	47.8
Over 12-month span:												
1998	69.7	67.3	67.3	65.9	63.9	62.5	61.5	62.1	61.0	59.8	59.8	58.1
1999	60.3	58.3	57.6	59.4	59.6	60.5	61.9	61.0	62.6	62.9	62.5	63.2
2000	64.9	63.8	60.8	59.8	57.9	55.2	54.5	54.4	50.1	–	–	–
	Manufacturing payrolls, 139 industries											
Over 1-month span:												
1998	57.9	50.7	53.6	50.7	47.1	50.0	37.8	50.0	45.7	39.9	41.7	43.9
1999	45.0	41.0	42.8	46.4	40.3	46.4	54.7	38.1	46.4	51.8	51.4	50.4
2000	52.2	47.8	51.1	51.1	45.7	51.1	57.6	36.3	38.8	45.7	42.8	40.6
2001	38.8	29.9	30.6	–	–	–	–	–	–	–	–	–
Over 3-month span:												
1998	56.8	56.8	52.2	52.2	48.6	41.4	39.2	40.3	43.2	37.1	36.7	40.6
1999	36.7	37.1	37.1	34.5	37.8	43.5	39.9	45.0	42.1	50.4	51.1	50.7
2000	47.8	52.5	49.3	48.9	49.6	53.6	44.2	36.3	28.8	35.3	36.0	32.7
2001	25.2	20.1	–	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1998	60.1	54.3	50.4	39.9	43.5	42.1	38.8	36.7	36.0	39.9	34.5	32.7
1999	35.6	33.5	33.5	37.1	32.7	38.8	41.0	45.7	48.2	43.2	48.6	51.1
2000	51.4	47.5	50.4	53.6	45.0	38.1	33.5	35.3	29.9	24.5	23.4	21.2
Over 12-month span:												
1998	55.0	51.8	51.8	46.8	40.6	39.9	37.8	38.1	37.1	36.0	34.2	33.5
1999	37.4	32.4	31.7	35.3	36.0	37.1	38.8	39.6	42.4	42.4	42.4	46.0
2000	47.8	44.6	39.2	39.2	34.2	29.9	29.1	25.5	20.5	–	–	–

Dash indicates data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

18. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1992	1993	1994	1995	1996	1997	1998	1999	2000
Civilian noninstitutional population	192,805	194,838	196,814	198,584	200,591	203,133	205,220	207,753	209,699
Civilian labor force	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	140,863
Labor force participation rate	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.2
Employed	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	135,208
Employment-population ratio	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.5
Agriculture	3,247	3,115	3,409	3,440	3,443	3,399	3,378	3,281	3,305
Nonagricultural industries	115,245	117,144	119,651	121,460	123,264	126,159	128,085	130,207	131,903
Unemployed	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,655
Unemployment rate	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0
Not in the labor force	64,700	65,638	65,758	66,280	66,647	66,837	67,547	68,385	68,836

19. Annual data: Employment levels by industry

[In thousands]

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total employment	108,601	110,713	114,163	117,191	119,608	122,690	125,865	128,786	131,418
Private sector	89,956	91,872	95,036	97,885	100,189	103,133	106,042	108,616	110,846
Goods-producing	23,231	23,352	23,908	24,265	24,493	24,962	25,414	25,482	25,662
Mining	635	610	601	581	580	596	590	535	538
Construction	4,492	4,668	4,986	5,160	5,418	5,691	6,020	6,404	6,687
Manufacturing	18,104	18,075	18,321	18,524	18,495	18,675	18,805	18,543	18,437
Service-producing	85,370	87,361	90,256	92,925	95,115	97,727	100,451	103,304	105,756
Transportation and public utilities	5,718	5,811	5,984	6,132	6,253	6,408	6,611	6,826	6,993
Wholesale trade	5,997	5,981	6,162	6,378	6,482	6,648	6,800	6,924	7,054
Retail trade	19,356	19,773	20,507	21,187	21,597	21,966	22,295	22,788	23,136
Finance, insurance, and real estate	6,602	6,757	6,896	6,806	6,911	7,109	7,389	7,569	7,618
Services	29,052	30,197	31,579	33,117	34,454	36,040	37,533	39,027	40,384
Government	18,645	18,841	19,128	19,305	19,419	19,557	19,823	20,170	20,572
Federal	2,969	2,915	2,870	2,822	2,757	2,699	2,686	2,669	2,777
State	4,408	4,488	4,576	4,635	4,606	4,582	4,612	4,695	4,746
Local	11,267	11,438	11,682	11,849	12,056	12,276	12,525	12,806	13,049

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

20. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000
Private sector:									
Average weekly hours	34.4	34.5	34.7	34.5	34.4	34.6	34.6	34.5	34.5
Average hourly earnings (in dollars)	10.57	10.83	11.12	11.43	11.82	12.28	12.78	13.24	13.74
Average weekly earnings (in dollars)	363.61	373.64	385.86	394.34	406.61	424.89	442.19	456.78	474.03
Mining:									
Average weekly hours	43.9	44.3	44.8	44.7	45.3	45.4	43.9	43.8	44.9
Average hourly earnings (in dollars)	14.54	14.60	14.88	15.30	15.62	16.15	16.91	17.09	17.14
Average weekly earnings (in dollars)	638.31	646.78	666.62	683.91	707.59	733.21	742.35	748.54	769.59
Construction:									
Average weekly hours	38.0	38.5	38.9	38.9	39.0	39.0	38.9	39.1	39.3
Average hourly earnings (in dollars)	14.15	14.38	14.73	15.09	15.47	16.04	16.61	17.18	17.86
Average weekly earnings (in dollars)	537.70	553.63	573.00	587.00	603.33	625.56	646.13	671.74	701.90
Manufacturing:									
Average weekly hours	41.0	41.4	42.0	41.6	41.6	42.0	41.7	41.7	41.5
Average hourly earnings (in dollars)	11.46	11.74	12.07	12.37	12.77	13.17	13.49	13.91	14.38
Average weekly earnings (in dollars)	469.86	486.04	506.94	514.59	531.23	553.14	562.53	580.05	596.77
Transportation and public utilities:									
Average weekly hours	38.3	39.3	39.7	39.4	39.6	39.7	39.5	38.7	38.5
Average hourly earnings (in dollars)	13.43	13.55	13.78	14.13	14.45	14.92	15.31	15.69	16.22
Average weekly earnings (in dollars)	514.37	532.52	547.07	556.72	572.22	592.32	604.75	607.20	624.47
Wholesale trade:									
Average weekly hours	38.2	38.2	38.4	38.3	38.3	38.4	38.3	38.3	38.5
Average hourly earnings (in dollars)	11.39	11.74	12.06	12.43	12.87	13.45	14.07	14.58	15.18
Average weekly earnings (in dollars)	435.10	448.47	463.10	476.07	492.92	516.48	538.88	558.41	584.43
Retail trade:									
Average weekly hours	28.8	28.8	28.9	28.8	28.8	28.9	29.0	29.0	28.9
Average hourly earnings (in dollars)	7.12	7.29	7.49	7.69	7.99	8.33	8.74	9.08	9.45
Average weekly earnings (in dollars)	205.06	209.95	216.46	221.47	230.11	240.74	253.46	263.32	273.11
Finance, insurance, and real estate:									
Average weekly hours	35.8	35.8	35.8	35.9	35.9	36.1	36.4	36.2	36.3
Average hourly earnings (in dollars)	10.82	11.35	11.83	12.32	12.80	13.34	14.07	14.62	15.07
Average weekly earnings (in dollars)	387.36	406.33	423.51	442.29	459.52	481.57	512.15	529.24	547.04
Services:									
Average weekly hours	32.5	32.5	32.5	32.4	32.4	32.6	32.6	32.6	32.7
Average hourly earnings (in dollars)	10.54	10.78	11.04	11.39	11.79	12.28	12.84	13.36	13.88
Average weekly earnings (in dollars)	342.55	350.35	358.80	369.04	382.00	400.33	418.58	435.54	453.88

21. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1998	1999				2000				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2000	
Civilian workers[2]	139.8	140.4	141.8	143.3	144.6	146.5	148.0	149.5	150.6	0.7	4.1
Workers, by occupational group:											
White-collar workers	141.4	141.9	143.3	145.0	146.3	148.4	149.9	151.5	152.5	.7	4.2
Professional specialty and technical	141.0	141.3	142.2	143.9	145.3	146.7	148.3	150.0	151.3	.9	4.1
Executive, administrative, and managerial	141.8	143.5	145.4	147.3	148.6	150.5	151.9	153.7	154.6	.6	4.0
Administrative support, including clerical	141.3	142.5	143.4	144.7	146.1	148.6	150.1	151.8	152.8	.7	4.6
Blue-collar workers	136.1	137.1	138.3	139.5	140.6	142.7	144.1	145.6	146.5	.6	4.2
Service occupations	140.0	141.3	142.4	143.1	144.8	146.0	147.1	148.5	150.0	1.0	3.6
Workers, by industry division:											
Goods-producing	137.9	139.0	140.0	141.2	142.5	144.9	146.6	148.0	148.8	.5	4.4
Manufacturing	138.9	139.9	140.9	142.1	143.6	146.0	147.5	148.7	149.3	.4	4.0
Service-producing	140.4	140.9	142.4	144.0	145.3	147.1	148.4	150.1	151.1	.7	4.0
Services	141.7	142.3	143.2	145.1	146.5	148.0	149.3	151.2	152.4	.8	4.0
Health services	139.1	140.5	141.4	142.7	144.3	145.9	147.5	149.0	150.7	1.1	4.4
Hospitals	140.2	141.3	142.2	143.4	145.0	146.3	147.7	149.5	151.3	1.2	4.3
Educational services	141.0	141.3	141.7	144.6	145.8	146.5	146.8	149.7	150.6	.6	3.3
Public administration[3]	139.9	140.8	141.5	142.4	144.4	145.7	146.1	146.9	148.3	1.0	2.7
Nonmanufacturing	139.9	140.5	141.9	143.4	144.7	146.6	148.0	149.6	150.7	.7	4.1
Private industry workers	139.8	140.4	142.0	143.3	144.6	146.8	148.5	149.9	150.9	.7	4.4
Excluding sales occupations	139.4	140.5	141.9	143.2	144.5	146.5	148.2	149.8	150.9	.7	4.4
Workers, by occupational group:											
White-collar workers	142.0	142.4	144.1	145.6	146.9	149.3	151.1	152.6	153.6	.7	4.6
Excluding sales occupations	141.9	143.0	144.5	146.0	147.3	149.4	151.3	152.9	154.1	.8	4.6
Professional specialty and technical occupations	142.6	142.9	144.1	145.2	146.7	148.4	150.7	152.2	153.7	1.0	4.8
Executive, administrative, and managerial occupations	141.8	143.7	145.8	147.7	149.1	151.1	152.7	154.4	155.3	.6	4.2
Sales occupations	142.6	139.6	142.6	144.1	145.3	148.9	150.3	151.2	151.4	.1	4.2
Administrative support occupations, including clerical	141.4	142.6	143.7	145.0	146.2	149.0	150.6	152.3	153.4	.7	4.9
Blue-collar workers	135.9	136.9	138.2	139.4	140.5	142.6	144.1	145.5	146.4	.6	4.2
Precision production, craft, and repair occupations	136.1	137.2	138.4	139.6	140.6	142.3	144.1	145.8	146.7	.6	4.3
Machine operators, assemblers, and inspectors	136.8	137.3	138.4	139.9	141.4	144.0	145.0	146.0	146.8	.5	3.8
Transportation and material moving occupations	130.7	131.6	133.6	134.4	135.2	137.5	138.6	139.9	141.1	.9	4.4
Handlers, equipment cleaners, helpers, and laborers	139.2	141.0	142.3	143.2	144.4	146.4	148.1	149.4	150.4	.7	4.2
Service occupations	138.0	139.5	140.6	141.0	142.6	143.9	145.4	146.6	148.1	1.0	3.9
Production and nonsupervisory occupations[4]	139.0	139.3	140.8	141.9	143.1	145.3	146.9	148.4	149.5	.7	4.5
Workers, by industry division:											
Goods-producing	137.8	138.9	139.9	141.1	142.5	144.8	146.6	147.9	148.8	.6	4.4
Excluding sales occupations	137.2	138.3	139.3	140.5	141.8	144.2	145.9	147.2	148.2	.7	4.5
White-collar occupations	140.2	141.7	142.7	143.9	145.5	148.1	150.1	151.3	151.9	.4	4.4
Excluding sales occupations	138.8	140.4	141.3	142.5	143.9	146.5	148.4	149.6	150.5	.6	4.6
Blue-collar occupations	136.3	137.1	138.3	139.4	140.7	142.8	144.4	145.8	146.8	.7	4.3
Construction	134.3	135.6	136.9	137.9	138.7	140.8	143.2	145.1	146.7	1.1	5.8
Manufacturing	138.9	139.9	140.9	142.1	143.6	146.0	147.5	148.7	149.3	.4	4.0
White-collar occupations	140.5	141.8	143.0	144.3	145.8	148.2	150.2	151.4	151.5	.1	3.9
Excluding sales occupations	138.7	140.1	141.3	142.5	143.8	146.2	148.2	149.3	149.7	.3	4.1
Blue-collar occupations	137.7	138.5	139.4	140.5	142.1	144.4	145.6	146.7	147.8	.7	4.0
Durables	139.2	139.9	141.0	142.3	144.0	146.5	148.3	149.4	150.1	.5	4.2
Nondurables	138.2	139.6	140.4	141.5	142.8	144.9	146.0	147.5	147.7	.1	3.4
Service-producing	140.5	140.9	142.8	144.1	145.3	147.4	149.1	150.6	151.7	.7	4.4
Excluding sales occupations	140.6	141.7	143.3	144.6	145.9	147.7	149.4	151.1	152.2	.7	4.3
White-collar occupations	142.2	142.3	144.3	145.8	147.0	149.3	151.0	152.6	153.7	.7	4.6
Excluding sales occupations	142.8	143.8	145.5	147.0	148.3	150.3	152.1	153.9	155.1	.8	4.6
Blue-collar occupations	134.8	136.2	137.8	139.1	139.8	141.8	143.1	144.5	145.3	.6	3.9
Service occupations	137.8	139.3	140.5	140.8	142.4	143.6	145.1	146.3	147.9	1.1	3.9
Transportation and public utilities	139.3	139.7	140.9	141.8	142.3	143.9	145.7	147.4	148.3	.6	4.2
Transportation	137.3	136.8	138.1	138.7	139.5	140.4	141.8	142.8	143.9	.8	3.2
Public utilities	141.9	143.4	144.6	145.7	146.1	148.6	150.9	153.5	154.1	.4	5.5
Communications	141.7	143.3	144.9	146.1	146.0	148.4	150.9	153.9	154.7	.5	6.0
Electric, gas, and sanitary services	142.1	143.4	144.2	145.1	146.1	148.9	151.0	152.9	153.4	.3	5.0
Wholesale and retail trade	138.2	138.9	141.1	142.2	143.5	145.6	147.3	148.3	149.4	.7	4.1
Excluding sales occupations	138.8	139.9	141.9	142.8	144.3	146.4	148.1	149.6	150.6	.7	4.4
Wholesale trade	142.8	142.7	144.6	146.3	148.5	150.0	151.8	152.1	154.4	1.5	4.0
Excluding sales occupations	141.2	142.4	144.0	145.8	147.4	149.6	151.1	152.7	154.9	1.4	5.1
Retail trade	135.6	136.8	139.1	140.0	140.7	143.2	144.8	146.2	146.6	.3	4.2
General merchandise stores	134.0	135.0	135.6	137.2	138.3	139.7	141.0	142.2	144.4	1.5	4.4
Food stores	132.7	134.3	135.7	137.0	138.1	140.1	142.5	143.4	144.5	.8	4.6

See footnotes at end of table.

21. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1998	1999				2000				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2000	
Finance, insurance, and real estate	142.5	141.5	145.8	147.6	148.3	152.0	153.1	155.2	155.7	0.3	5.0
Excluding sales occupations	143.3	145.6	148.8	151.0	151.6	154.2	155.5	157.4	158.4	.6	4.5
Banking, savings and loan, and other credit agencies	146.7	148.8	155.4	159.3	159.8	162.7	164.2	165.8	166.5	.4	4.2
Insurance	141.7	141.7	144.0	144.5	145.8	149.9	151.3	154.8	155.2	.3	6.4
Services	142.7	143.5	144.6	146.1	147.6	149.4	151.2	152.9	154.1	.8	4.4
Business services	145.9	147.5	148.7	150.7	151.9	154.2	156.3	157.5	158.4	.6	4.3
Health services	139.0	140.5	141.4	142.6	144.2	145.8	147.5	149.0	150.6	1.1	4.4
Hospitals	139.9	141.2	142.1	143.0	144.6	145.8	147.5	149.2	151.1	1.3	4.5
Educational services	147.7	148.3	148.7	152.2	153.0	154.0	154.9	158.8	159.9	.7	4.5
Colleges and universities	148.5	149.2	149.6	152.6	153.3	154.6	155.5	158.6	159.2	.4	3.8
Nonmanufacturing	139.7	140.3	142.0	143.4	144.5	146.7	148.4	150.0	151.1	.7	4.6
White-collar workers	142.0	142.3	144.1	145.6	146.9	149.2	151.0	152.6	153.7	.7	4.6
Excluding sales occupations	142.7	143.7	145.3	146.8	148.1	150.2	152.0	153.8	155.1	.8	4.7
Blue-collar occupations	134.0	135.2	136.8	138.0	138.7	140.6	142.3	143.9	144.8	.6	4.4
Service occupations	137.7	139.2	140.4	140.7	142.3	143.5	145.1	146.3	147.8	1.0	3.9
State and local government workers	139.8	140.5	141.0	143.1	144.6	145.5	145.9	147.8	148.9	.7	3.0
Workers, by occupational group:											
White-collar workers	139.3	139.8	140.2	142.6	144.0	144.9	145.3	147.3	148.3	.7	3.0
Professional specialty and technical	138.5	138.8	139.3	142.0	143.2	144.1	144.5	146.6	147.4	.5	2.9
Executive, administrative, and managerial	141.6	142.6	142.8	144.5	146.1	147.0	147.2	149.2	150.7	1.0	3.1
Administrative support, including clerical	140.3	141.4	141.3	143.0	145.0	145.9	146.5	148.3	149.4	.7	3.0
Blue-collar workers	137.8	138.8	139.5	140.9	142.5	143.7	144.2	145.9	147.2	.9	3.3
Workers, by industry division:											
Services	139.7	140.0	140.5	143.2	144.5	145.2	145.5	148.0	148.9	.6	3.0
Services excluding schools[5]	138.8	139.6	140.3	142.6	143.8	145.2	145.8	147.6	148.8	.8	3.5
Health services	140.7	141.2	142.0	144.2	145.8	147.3	147.9	150.0	151.6	1.1	4.0
Hospitals	141.2	141.7	142.7	144.8	146.3	147.9	148.4	150.7	152.0	.9	3.9
Educational services	139.6	139.9	140.3	143.1	144.4	145.0	145.2	147.9	148.7	.5	3.0
Schools	139.9	140.2	140.6	143.5	144.7	145.3	145.5	148.2	149.0	.5	3.0
Elementary and secondary	139.3	139.6	140.0	142.9	144.1	144.5	144.7	147.3	148.1	.5	2.8
Colleges and universities	141.5	141.7	142.1	144.8	146.5	147.4	147.6	150.5	151.7	.8	3.5
Public administration[3]	139.9	140.8	141.5	142.4	144.4	145.7	146.1	146.9	148.3	1.0	2.7

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[5] Includes, for example, library, social, and health services.

22. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1998	1999				2000				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2000	
Civilian workers[1]	137.7	138.4	139.8	141.3	142.5	144.0	145.4	147.0	147.9	0.6	3.8
Workers, by occupational group:											
White-collar workers	139.7	140.1	141.6	143.3	144.6	146.2	147.6	149.2	150.2	.7	3.9
Professional specialty and technical	139.4	140.1	141.0	142.6	144.0	144.9	146.4	148.3	149.6	.9	3.9
Executive, administrative, and managerial	140.3	141.6	143.8	145.9	147.2	148.6	149.9	151.6	152.4	.5	3.5
Administrative support, including clerical	138.6	140.0	140.9	142.3	143.5	145.5	146.9	148.5	149.6	.7	4.3
Blue-collar workers	133.3	134.5	135.8	137.0	137.9	139.2	140.6	142.0	142.9	.6	3.6
Service occupations	137.0	138.3	139.4	140.1	141.7	143.0	144.0	145.7	147.1	1.0	3.8
Workers, by industry division:											
Goods-producing	135.2	136.3	137.4	138.6	139.7	141.3	143.0	144.3	145.3	.7	4.0
Manufacturing	136.8	137.9	139.0	140.2	141.5	142.9	144.4	145.7	146.5	.5	3.5
Service-producing	138.7	139.2	140.7	142.3	143.5	145.0	146.3	148.0	148.9	.6	3.8
Services	140.5	141.5	142.3	144.1	145.5	146.6	147.9	149.9	151.0	.7	3.8
Health services	137.6	138.8	139.7	140.9	142.5	143.8	145.3	146.7	148.3	1.1	4.1
Hospitals	137.1	138.1	138.8	140.1	141.6	142.6	143.8	145.6	147.3	1.2	4.0
Educational services	140.0	140.2	140.6	143.7	144.7	145.3	145.6	148.9	149.6	.5	3.4
Public administration[2]	135.9	136.9	137.8	139.5	141.5	142.5	142.9	144.6	146.1	1.0	3.3
Nonmanufacturing	137.8	138.4	139.9	141.5	142.6	144.2	145.5	147.2	148.1	.6	3.9
Private industry workers	137.4	138.1	139.7	141.0	142.2	143.9	145.4	146.8	147.7	.6	3.9
Excluding sales occupations	136.9	138.2	139.6	140.8	142.0	143.5	145.1	146.5	147.6	.8	3.9
Workers, by occupational group:											
White-collar workers	139.9	140.3	142.1	143.5	144.8	146.6	148.3	149.7	150.6	.6	4.0
Excluding sales occupations	139.7	141.0	142.5	143.9	145.2	146.7	148.5	149.9	151.1	.8	4.1
Professional specialty and technical occupations	139.7	140.7	141.8	142.6	144.1	145.1	147.3	148.6	150.2	1.1	4.2
Executive, administrative, and managerial occupations	140.5	141.9	144.3	146.4	147.6	149.2	150.7	152.3	153.0	.5	3.7
Sales occupations	141.3	137.3	140.5	142.1	143.3	146.7	147.9	149.0	148.7	–.2	3.8
Administrative support occupations, including clerical	138.9	140.4	141.4	142.7	143.8	146.0	147.5	149.1	150.1	.7	4.4
Blue-collar workers	133.2	134.3	135.6	136.8	137.7	139.1	140.5	141.9	142.8	.6	3.7
Precision production, craft, and repair occupations	133.0	134.3	135.6	136.7	137.5	138.9	140.6	142.0	142.8	.6	3.9
Machine operators, assemblers, and inspectors	134.9	135.7	136.7	138.3	139.5	140.7	141.6	142.9	143.7	.6	3.0
Transportation and material moving occupations	127.8	129.1	131.0	131.9	132.7	134.1	135.2	136.5	137.6	.8	3.7
Handlers, equipment cleaners, helpers, and laborers	135.8	137.3	138.3	139.4	140.4	141.8	143.6	145.0	146.2	.8	4.1
Service occupations	135.3	136.7	137.8	138.0	139.6	141.0	142.5	143.5	144.9	1.0	3.8
Production and nonsupervisory occupations[3]	136.4	136.8	138.2	139.3	140.4	142.1	143.7	145.0	146.0	.7	4.0
Workers, by industry division:											
Goods-producing	135.2	136.3	137.3	138.5	139.7	141.3	143.0	144.3	145.2	.6	3.9
Excluding sales occupations	134.4	135.5	136.6	137.8	138.9	140.5	142.1	143.4	144.6	.8	4.1
White-collar occupations	138.2	139.4	140.5	141.7	143.0	145.0	146.8	147.9	148.7	.5	4.0
Excluding sales occupations	136.4	137.8	138.8	140.1	141.3	143.2	144.9	146.0	147.2	.8	4.2
Blue-collar occupations	133.3	134.3	135.4	136.6	137.6	139.0	140.5	142.0	143.1	.8	4.0
Construction	129.3	130.7	131.9	133.0	133.6	136.0	138.0	139.4	140.7	.9	5.3
Manufacturing	136.8	137.9	139.0	140.2	141.5	142.9	144.4	145.7	146.5	.5	3.5
White-collar occupations	139.0	140.1	141.4	142.7	144.0	145.8	147.7	148.7	149.2	.3	3.6
Excluding sales occupations	137.1	138.3	139.6	140.8	142.0	143.7	145.6	146.6	147.5	.6	3.9
Blue-collar occupations	135.3	136.3	137.2	138.4	139.7	140.8	142.0	143.4	144.6	.8	3.5
Durables	136.9	137.9	139.1	140.4	141.8	143.0	144.7	146.1	147.3	.8	3.9
Nondurables	136.8	138.0	138.7	139.7	140.9	142.7	143.9	145.0	145.4	.3	3.2
Service-producing	138.4	138.9	140.8	142.1	143.3	145.0	146.5	147.9	148.9	.7	3.9
Excluding sales occupations	138.5	139.8	141.4	142.6	143.8	145.3	146.9	148.3	149.4	.7	3.9
White-collar occupations	140.1	140.3	142.3	143.8	145.0	146.9	148.5	150.0	150.9	.6	4.1
Excluding sales occupations	140.7	142.0	143.7	145.1	146.4	147.8	149.6	151.2	152.3	.7	4.0
Blue-collar occupations	132.9	134.4	135.9	137.0	137.8	139.1	140.3	141.6	142.2	.4	3.2
Service occupations	135.2	136.7	137.8	138.0	139.6	141.1	142.5	143.5	144.8	.9	3.7
Transportation and public utilities	135.1	135.4	136.8	137.5	137.9	138.5	140.0	141.3	142.3	.7	3.2
Transportation	132.9	132.3	133.7	134.4	134.9	134.9	136.2	137.4	138.6	.9	2.7
Public utilities	137.8	139.2	140.6	141.5	141.8	143.2	144.9	146.4	147.1	.5	3.7
Communications	138.0	139.4	141.1	141.9	142.2	143.4	145.0	146.7	147.4	.5	3.7
Electric, gas, and sanitary services	137.4	138.9	140.0	140.9	141.3	143.0	144.7	145.9	146.6	.5	3.8
Wholesale and retail trade	137.0	137.7	139.6	140.7	142.0	143.8	145.5	146.4	147.4	.7	3.8
Excluding sales occupations	138.2	139.5	141.1	141.8	143.3	145.2	146.8	148.2	149.0	.5	4.0
Wholesale trade	141.3	140.7	142.3	144.3	146.5	147.4	149.4	149.6	151.6	1.3	3.5
Excluding sales occupations	140.8	141.9	143.0	144.8	146.4	147.9	149.7	151.3	153.2	1.3	4.6
Retail trade	134.8	136.2	138.3	138.9	139.6	142.1	143.5	144.8	145.2	.3	4.0
General merchandise stores	133.0	133.7	134.3	135.6	136.7	137.8	138.5	139.7	142.2	1.8	4.0
Food stores	130.5	131.8	132.8	133.9	134.9	136.7	139.5	140.2	141.6	1.0	5.0

See footnotes at end of table.

22. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1998	1999				2000				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2000	
Finance, insurance, and real estate	139.8	137.2	142.4	144.5	145.2	148.7	149.5	151.7	151.7	0.0	4.5
Excluding sales occupations	139.6	141.0	144.8	147.5	148.0	150.2	151.5	153.3	154.1	.5	4.1
Banking, savings and loan, and other credit agencies	144.4	146.1	154.5	159.2	159.6	162.0	163.3	165.0	165.7	.4	3.8
Insurance	138.5	137.4	139.8	140.2	141.5	145.5	146.6	150.7	150.8	.1	6.6
Services	140.8	142.2	143.2	144.5	146.0	147.4	149.1	150.6	151.8	.8	4.0
Business services	144.1	145.4	146.3	148.5	149.8	152.0	154.1	155.3	156.0	.5	4.1
Health services	137.4	138.7	139.6	140.6	142.2	143.5	145.3	146.6	148.1	1.0	4.1
Hospitals	136.5	137.6	138.3	139.3	140.9	141.8	143.3	144.9	146.8	1.3	4.2
Educational services	143.5	143.9	144.2	147.5	148.2	148.9	149.6	153.4	154.3	.6	4.1
Colleges and universities	143.6	144.1	144.4	147.2	147.9	148.9	149.4	152.5	152.9	.3	3.4
Nonmanufacturing	137.4	137.9	139.7	141.0	142.1	143.9	145.5	146.9	147.9	.7	4.1
White-collar workers	139.8	140.1	142.0	143.5	144.7	146.5	148.2	149.6	150.6	.7	4.1
Excluding sales occupations	140.3	141.6	143.2	144.6	145.9	147.4	149.1	150.7	151.9	.8	4.1
Blue-collar occupations	131.1	132.4	134.0	135.1	135.8	137.4	138.9	140.3	140.9	.4	3.8
Service occupations	135.1	136.5	137.7	137.9	139.5	140.9	142.4	143.4	144.7	.9	3.7
State and local government workers	138.5	139.0	139.6	142.2	143.5	144.3	144.7	147.2	148.3	.7	3.3
Workers, by occupational group:											
White-collar workers	138.5	138.9	139.3	142.1	143.4	144.1	144.5	147.1	148.0	.6	3.2
Professional specialty and technical	138.7	138.9	139.4	142.5	143.6	144.3	144.7	147.4	148.2	.5	3.2
Executive, administrative, and managerial	139.3	140.1	140.5	142.7	144.3	144.9	145.1	147.3	148.8	1.0	3.1
Administrative support, including clerical	136.5	137.4	137.5	139.6	141.7	142.4	143.0	145.0	146.2	.8	3.2
Blue-collar workers	136.0	136.9	137.6	139.4	140.7	141.5	142.1	143.9	145.1	.8	3.1
Workers, by industry division:											
Services	139.2	139.5	139.9	142.9	144.0	144.6	144.9	147.9	148.7	.5	3.3
Services excluding schools[4]	138.2	139.0	139.6	142.1	143.2	144.3	144.8	146.7	147.9	.8	3.3
Health services	139.2	139.7	140.4	142.8	144.2	145.3	145.7	147.7	149.3	1.1	3.5
Hospitals	139.1	139.7	140.6	142.8	144.1	145.3	145.6	147.7	149.2	1.0	3.5
Educational services	139.3	139.5	139.8	142.9	144.0	144.5	144.8	148.0	148.7	.5	3.3
Schools	139.5	139.6	140.0	143.1	144.2	144.7	144.9	148.1	148.9	.5	3.3
Elementary and secondary	139.3	139.5	139.9	143.1	144.1	144.5	144.6	147.9	148.5	.4	3.1
Colleges and universities	139.6	139.6	139.8	142.6	144.4	144.9	145.6	148.3	149.5	.8	3.5
Public administration[2]	135.9	136.9	137.8	139.5	141.5	142.5	142.9	144.6	146.1	1.0	3.3

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	1998	1999				2000				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2000	
Private industry workers	145.2	145.8	147.3	148.6	150.2	153.8	155.7	157.5	158.6	0.7	5.6
Workers, by occupational group:											
White-collar workers	147.4	147.9	149.4	151.0	152.5	156.3	158.5	160.4	161.5	.7	5.9
Blue-collar workers	141.6	142.2	143.6	144.8	146.2	150.0	151.6	153.1	154.1	.7	5.4
Workers, by industry division:											
Goods-producing	143.2	144.3	145.2	146.3	148.2	152.3	154.2	155.7	156.2	.3	5.4
Service-producing	145.7	146.1	147.9	149.4	150.7	154.0	156.0	157.9	159.4	.9	5.8
Manufacturing	142.7	143.6	144.5	145.7	147.8	152.3	153.9	154.9	154.8	−.1	4.7
Nonmanufacturing	145.8	146.3	148.0	149.4	150.7	154.0	156.1	158.1	159.7	1.0	6.0

24. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	1998	1999				2000				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2000	
COMPENSATION											
Workers, by bargaining status[1]											
Union	137.5	138.0	139.0	140.2	141.2	143.0	144.4	146.1	146.9	0.5	4.0
Goods-producing	136.5	136.8	138.2	139.2	140.8	143.3	144.8	146.8	147.3	.3	4.6
Service-producing	138.5	139.2	139.7	141.0	141.4	142.5	143.9	145.2	146.4	.8	3.5
Manufacturing	136.9	137.0	138.1	139.1	141.0	144.5	145.4	147.1	147.4	.2	4.5
Nonmanufacturing	137.4	138.1	139.2	140.3	140.8	141.7	143.4	145.0	146.2	.8	3.8
Nonunion	140.1	140.8	142.5	143.8	145.2	147.4	149.1	150.6	151.6	.7	4.4
Goods-producing	138.3	139.7	140.5	141.8	143.1	145.4	147.2	148.4	149.3	.6	4.3
Service-producing	140.6	141.1	143.0	144.4	145.7	148.0	149.6	151.2	152.3	.7	4.5
Manufacturing	139.4	140.7	141.7	143.0	144.4	146.5	148.2	149.2	149.9	.5	3.8
Nonmanufacturing	140.0	140.6	142.4	143.8	145.1	147.4	149.1	150.7	151.8	.7	4.6
Workers, by region[1]											
Northeast	139.5	140.5	141.5	143.2	144.3	146.3	147.6	149.3	150.3	.7	4.2
South	138.1	139.1	140.7	141.8	143.0	145.0	146.7	147.6	148.6	.7	3.9
Midwest (formerly North Central)	141.4	141.7	143.6	145.0	146.3	148.9	150.7	152.2	153.3	.7	4.8
West	140.0	140.3	142.1	143.3	144.7	147.0	148.8	150.8	151.8	.7	4.9
Workers, by area size[1]											
Metropolitan areas	139.8	140.4	142.0	143.3	144.7	146.9	148.6	150.1	151.0	.6	4.4
Other areas	139.4	140.5	141.8	143.1	143.6	146.0	147.7	148.8	150.3	1.0	4.7
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	133.1	133.6	134.7	135.7	136.5	137.2	138.5	140.0	141.2	.9	3.4
Goods-producing	131.7	132.3	133.8	134.9	136.1	137.2	138.4	140.2	141.3	.8	3.8
Service-producing	134.8	135.4	135.8	136.8	137.2	137.6	138.9	140.1	141.5	1.0	3.1
Manufacturing	133.0	133.6	134.7	135.8	137.5	138.8	139.7	141.4	142.6	.8	3.7
Nonmanufacturing	133.1	133.7	134.6	135.6	135.9	136.4	137.8	139.2	140.4	.9	3.3
Nonunion	138.3	139.0	140.7	142.0	143.3	145.1	146.7	148.1	149.0	.6	4.0
Goods-producing	136.5	137.8	138.8	140.0	141.1	142.9	144.7	145.8	146.8	.7	4.0
Service-producing	138.8	139.3	141.3	142.6	143.9	145.8	147.3	148.7	149.6	.6	4.0
Manufacturing	138.2	139.4	140.5	141.7	142.9	144.4	146.1	147.2	148.0	.5	3.6
Nonmanufacturing	138.0	138.6	140.5	141.8	143.0	145.0	146.6	148.0	148.9	.6	4.1
Workers, by region[1]											
Northeast	136.4	137.1	138.2	139.9	140.9	142.3	143.7	145.3	146.0	.5	3.6
South	136.7	137.9	139.4	140.2	141.5	143.0	144.6	145.3	146.3	.7	3.4
Midwest (formerly North Central)	138.0	138.9	141.0	142.4	143.6	145.3	147.1	148.6	149.6	.7	4.2
West	138.4	138.2	140.2	141.3	142.6	144.7	146.3	148.2	149.2	.7	4.6
Workers, by area size[1]											
Metropolitan areas	137.7	138.3	139.9	141.2	142.5	144.1	145.7	147.1	148.0	.6	3.9
Other areas	136.0	137.1	138.4	139.8	140.2	142.2	143.7	144.7	146.0	.9	4.1

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, medium and large private establishments, selected years, 1980–97

Item	1980	1982	1984	1986	1988	1989	1991	1993	1995	1997
Scope of survey (in 000's)	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728	33,374	38,409
Number of employees (in 000's):										
With medical care	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519	25,546	29,340
With life insurance	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175	29,078	33,495
With defined benefit plan	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015	17,417	19,202
Time-off plans										
Participants with:										
Paid lunch time	10	9	9	10	11	10	8	9	–	–
Average minutes per day	–	25	26	27	29	26	30	29	–	–
Paid rest time	75	76	73	72	72	71	67	68	–	–
Average minutes per day	–	25	26	26	26	26	28	26	–	–
Paid funeral leave	–	–	–	88	85	84	80	83	80	81
Average days per occurrence	–	–	–	3.2	3.2	3.3	3.3	3.0	3.3	3.7
Paid holidays	99	99	99	99	96	97	92	91	89	89
Average days per year	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4	9.1	9.3
Paid personal leave	20	24	23	25	24	22	21	21	22	20
Average days per year	–	3.8	3.6	3.7	3.3	3.1	3.3	3.1	3.3	3.5
Paid vacations	100	99	99	100	98	97	96	97	96	95
Paid sick leave [1]	62	67	67	70	69	68	67	65	58	56
Unpaid maternity leave	–	–	–	–	33	37	37	60	–	–
Unpaid paternity leave	–	–	–	–	16	18	26	53	–	–
Unpaid family leave	–	–	–	–	–	–	–	–	84	93
Insurance plans										
Participants in medical care plans	97	97	97	95	90	92	83	82	77	76
Percent of participants with coverage for:										
Home health care	–	–	46	66	76	75	81	86	78	85
Extended care facilities	58	62	62	70	79	80	80	82	73	78
Physical exam	–	–	8	18	28	28	30	42	56	63
Percent of participants with employee contribution required for:										
Self coverage	26	27	36	43	44	47	51	61	67	69
Average monthly contribution	–	–	$11.93	$12.80	$19.29	$25.31	$26.60	$31.55	$33.92	$39.14
Family coverage	46	51	58	63	64	66	69	76	78	80
Average monthly contribution	–	–	$35.93	$41.40	$60.07	$72.10	$96.97	$107.42	$118.33	$130.07
Participants in life insurance plans	96	96	96	96	92	94	94	91	87	87
Percent of participants with:										
Accidental death and dismemberment insurance	69	72	74	72	78	71	71	76	77	74
Survivor income benefits	–	–	–	10	8	7	6	5	7	6
Retiree protection available	–	64	64	59	49	42	44	41	37	33
Participants in long-term disability insurance plans	40	43	47	48	42	45	40	41	42	43
Participants in sickness and accident insurance plans	54	51	51	49	46	43	45	44	–	–
Participants in short-term disability plans [1]	–	–	–	–	–	–	–	–	53	55
Retirement plans										
Participants in defined benefit pension plans	84	84	82	76	63	63	59	56	52	50
Percent of participants with:										
Normal retirement prior to age 65	55	58	63	64	59	62	55	52	52	52
Early retirement available	98	97	97	98	98	97	98	95	96	95
Ad hoc pension increase in last 5 years	–	–	47	35	26	22	7	6	4	10
Terminal earnings formula	53	52	54	57	55	64	56	61	58	56
Benefit coordinated with Social Security	45	45	56	62	62	63	54	48	51	49
Participants in defined contribution plans	–	–	–	60	45	48	48	49	55	57
Participants in plans with tax-deferred savings arrangements	–	–	–	33	36	41	44	43	54	55
Other benefits										
Employees eligible for:										
Flexible benefits plans	–	–	–	2	5	9	10	12	12	13
Reimbursement accounts [2]	–	–	–	5	12	23	36	52	38	32
Premium conversion plans	–	–	–	–	–	–	–	–	5	7

[1] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1995 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-terms disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[2] Prior to 1995, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

26. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, small private establishments and State and local governments, 1987, 1990, 1992, 1994, 1996, and 1998

Item	Small private establishments				State and local governments				
	1990	1992	1994	1996	1987	1990	1992	1994	1998
Scope of survey (in 000's)	32,466	34,360	35,910	39,816	10,321	12,972	12,466	12,907	14,351
Number of employees (in 000's):									
With medical care	22,402	24,396	23,536	25,599	9,599	12,064	11,219	11,192	12,308
With life insurance	20,778	21,990	21,955	24,635	8,773	11,415	11,095	11,194	12,777
With defined benefit plan	6,493	7,559	5,480	5,883	9,599	11,675	10,845	11,708	12,983
Time-off plans									
Participants with:									
Paid lunch time	8	9	–	–	17	11	10	–	–
Average minutes per day	37	37	–	–	34	36	34	–	–
Paid rest time	48	49	–	–	58	56	53	–	–
Average minutes per day	27	26	–	–	29	29	29	–	–
Paid funeral leave	47	50	50	51	56	63	65	62	65
Average days per occurrence	2.9	3.0	3.1	3.0	3.7	3.7	3.7	3.7	3.7
Paid holidays	84	82	82	80	81	74	75	73	73
Average days per year[1]	9.5	9.2	7.5	7.6	10.9	13.6	14.2	11.5	11.4
Paid personal leave	11	12	13	14	38	39	38	38	38
Average days per year	2.8	2.6	2.6	3.0	2.7	2.9	2.9	3.0	3.1
Paid vacations	88	88	88	86	72	67	67	66	67
Paid sick leave[2]	47	53	50	50	97	95	95	94	96
Unpaid leave	17	18	–	–	57	51	59	–	–
Unpaid paternity leave	8	7	–	–	30	33	44	–	–
Unpaid family leave	–	–	47	48	–	–	–	93	9.5
Insurance plans									
Participants in medical care plans	69	71	66	64	93	93	90	87	8.6
Percent of participants with coverage for:									
Home health care	79	80	–	–	76	82	87	84	90
Extended care facilities	83	84	–	–	78	79	84	81	78
Physical exam	26	28	–	–	36	36	47	55	67
Percent of participants with employee contribution required for:									
Self coverage	42	47	52	52	35	38	43	47	51
Average monthly contribution	$25.13	$36.51	$40.97	$42.63	$15.74	$25.53	$28.97	$30.20	$31.94
Family coverage	67	73	76	75	71	65	72	71	75
Average monthly contribution	$109.34	$150.54	$159.63	$181.53	$71.89	$117.59	$139.23	$149.70	$152.46
Participants in life insurance plans	64	64	61	62	85	88	89	87	89
Percent of participants with:									
Accidental death and dismemberment insurance	78	76	79	77	67	67	74	64	58
Survivor income benefits	1	1	2	1	1	1	1	2	1
Retiree protection available	19	25	20	13	55	45	46	46	–
Participants in long-term disability insurance plans	19	23	20	22	31	27	28	30	34
Participants in sickness and accident insurance plans	6	26	26	–	14	21	22	21	–
Participants in short-term disability plans[2]	–	–	–	29	–	–	–	–	–
Retirement plans									
Participants in defined benefit pension plans	20	22	15	15	93	90	87	91	90
Percent of participants with:									
Normal retirement prior to age 65	54	50	–	47	92	89	92	92	77
Early retirement available	95	95	–	92	90	88	89	87	87
Ad hoc pension increase in last 5 years	7	4	–	–	33	16	10	13	–
Terminal earnings formula	58	54	–	53	100	100	100	99	99
Benefit coordinated with Social Security	49	46	–	44	18	8	10	4	7
Participants in defined contribution plans	31	33	34	38	9	9	9	9	14
Participants in plans with tax-deferred savings arrangements	17	24	23	28	28	45	45	24	35
Other benefits									
Employees eligible for:									
Flexible benefits plans	1	2	3	4	5	5	5	5	5
Reimbursement accounts[3]	8	14	19	12	5	31	50	64	42
Premium conversion plans	–	–	–	7	–	–	–	–	9

[1] Methods used to calculate the average number of paid holidays were revised in 1994 to count partial days more precisely. Average holidays for 1994 are not comparable with those reported in 1990 and 1992.

[2] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1996 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[3] Prior to 1996, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

27. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1999	2000										
	1999	2000	Dec.	Jan.[P]	Feb.[P]	Mar.[P]	Apr.[P]	May[P]	June[P]	July[P]	Aug.[P]	Sept.[P]	Oct.[P]	Nov.[P]	Dec.[P]
Number of stoppages:															
Beginning in period	17	39	0	0	1	2	6	2	5	3	6	5	7	0	2
In effect during period	21	40	1	1	2	4	7	4	8	6	8	10	12	3	3
Workers involved:															
Beginning in period (in thousands)	73	394	.0	.0	17.0	5.7	26.7	136.9	11.4	7.2	99.2	17.8	60.3	.0	8.7
In effect during period (in thousands)	80	397	3.0	3.0	20.0	25.7	29.7	141.3	150.8	146.9	237.2	167.8	211.6	4.5	10.3
Days idle:															
Number (in thousands)	1,995	20,419	63.0	60.0	298.0	327.6	272.2	3,095.3	3,134.0	2,804.4	4,186.6	3,029.3	3,088.6	64.5	58.9
Percent of estimated working time[1]	.01	.06	([2])	([2])	.01	.01	.01	.10	.10	.10	.13	.11	.11	([2])	([2])

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in " 'Total economy' measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54–56.

[2] Less than 0.005.

[P] = preliminary.

28. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2001										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	166.6	172.2	171.2	171.3	171.5	172.4	172.8	172.8	173.7	174.0	174.1	174.0	175.1	175.8	176.2
All items (1967 = 100)	499.0	515.8	512.8	513.2	513.6	516.5	517.5	517.6	520.3	521.2	521.5	521.1	524.5	526.7	528.0
Food and beverages	164.6	168.4	167.1	167.2	167.8	167.9	168.7	169.2	169.4	169.6	169.5	170.5	171.4	171.8	172.2
Food	164.1	167.8	166.5	166.6	167.3	167.3	168.1	168.7	168.9	169.1	168.9	170.0	170.9	171.3	171.7
Food at home	164.2	167.9	166.4	166.5	167.5	167.3	168.3	168.9	169.0	169.1	168.8	170.2	171.3	171.8	172.0
Cereals and bakery products	185.0	188.3	186.1	187.2	188.6	187.7	189.6	189.9	188.6	190.1	189.0	190.7	191.1	191.9	191.9
Meats, poultry, fish, and eggs	147.9	154.5	152.4	152.9	153.9	154.9	155.8	156.8	156.9	156.8	155.5	156.6	158.0	159.5	160.1
Dairy and related products[1]	159.6	160.7	159.1	160.6	159.6	159.5	160.5	161.0	161.6	161.9	161.4	161.5	163.6	163.6	163.2
Fruits and vegetables	203.1	204.6	201.7	201.6	204.3	199.9	201.0	202.5	204.6	206.2	207.3	215.1	212.6	211.5	211.5
Nonalcoholic beverages and beverage materials	134.3	137.8	138.5	137.6	137.3	137.5	138.5	138.2	138.0	137.4	137.9	136.7	139.4	139.9	139.5
Other foods at home	153.5	155.6	155.1	154.0	155.4	156.2	156.6	156.9	156.7	155.8	156.0	156.3	157.8	157.9	158.6
Sugar and sweets	152.3	154.0	154.6	152.4	153.7	154.0	154.1	154.6	154.6	153.9	153.0	153.5	155.7	155.8	155.7
Fats and oils	148.3	147.4	145.9	144.8	147.0	146.6	148.1	148.9	148.7	149.7	146.5	150.2	153.0	152.6	153.1
Other foods	168.9	172.2	171.6	170.7	172.1	173.4	173.5	173.7	173.4	172.0	173.3	172.7	173.8	174.0	175.1
Other miscellaneous foods[1,2]	104.9	107.5	107.0	105.2	106.4	108.4	108.8	109.5	107.7	106.8	110.0	108.9	109.0	108.7	108.4
Food away from home[1]	165.1	169.0	167.9	168.1	168.3	168.6	169.1	169.5	170.0	170.3	170.4	170.8	171.4	171.8	172.3
Other food away from home[1,2]	105.2	109.0	107.9	108.0	108.1	108.1	108.7	109.3	110.0	110.5	111.0	111.1	111.3	111.4	111.6
Alcoholic beverages	169.7	174.7	173.5	173.6	173.8	174.4	175.2	175.6	175.5	175.9	176.4	176.5	177.2	177.7	177.8
Housing	163.9	169.6	167.8	167.9	168.1	169.6	170.6	170.9	171.4	171.7	171.6	171.9	174.1	174.7	175.4
Shelter	187.3	193.4	192.2	192.3	192.4	193.3	194.1	194.7	194.6	195.2	195.2	195.1	196.4	197.6	198.9
Rent of primary residence	177.5	183.9	182.0	182.3	182.7	183.2	183.9	184.6	185.3	186.1	186.8	187.6	188.2	188.9	189.6
Lodging away from home	112.3	117.5	120.9	119.4	117.5	120.5	122.8	123.0	118.1	118.5	113.9	108.8	114.1	119.1	124.2
Owners' equivalent rent of primary residence[3]	192.9	198.7	196.9	197.2	197.6	198.2	198.6	199.2	199.9	200.5	201.2	201.8	202.4	105.4	203.6
Tenants' and household insurance[1,2]	101.3	103.7	102.6	103.1	103.8	103.9	104.2	104.0	104.2	104.2	104.5	104.7	105.0	105.1	105.4
Fuels and utilities	128.8	137.9	131.8	131.7	132.4	138.9	141.3	140.9	143.8	143.1	142.7	145.3	153.8	152.3	150.8
Fuels	113.5	122.8	116.3	116.1	116.8	124.0	126.5	125.9	129.1	128.3	127.7	130.6	139.8	138.0	136.3
Fuel oil and other fuels	91.4	129.7	130.1	123.7	121.6	120.9	120.8	120.8	133.7	137.6	140.3	144.9	149.1	144.6	138.1
Gas (piped) and electricity	120.9	128.0	120.7	121.0	122.0	130.2	133.0	132.4	134.8	133.6	132.7	135.6	145.7	144.0	142.6
Household furnishings and operations	126.7	128.2	127.9	128.2	128.1	128.1	128.6	128.6	129.0	128.7	128.9	128.6	128.8	129.1	129.1
Apparel	131.3	129.6	132.5	133.3	132.2	128.3	124.5	125.3	130.4	132.8	131.8	127.8	125.4	128.4	132.2
Men's and boys' apparel	131.1	129.7	131.5	131.6	132.6	129.4	126.4	126.8	129.1	130.4	131.3	128.0	125.5	126.6	127.5
Women's and girls' apparel	123.3	121.5	125.9	126.7	124.4	119.2	113.9	115.6	124.2	127.9	124.8	119.7	115.5	121.0	127.8
Infants' and toddlers' apparel[1]	129.0	130.6	133.9	132.3	131.7	130.5	128.1	126.7	127.4	130.8	130.7	128.2	127.4	129.3	1316.0
Footwear	125.7	123.8	124.7	126.7	126.1	123.9	120.3	120.7	124.9	125.3	125.4	123.8	121.4	122.6	125.2
Transportation	144.4	153.3	153.4	152.9	153.1	155.7	155.0	153.2	154.7	154.4	155.2	154.4	154.4	154.9	153.9
Private transportation	140.5	149.1	149.2	148.7	148.8	151.4	150.6	148.6	150.4	150.4	151.1	150.3	150.3	150.7	149.7
New and used motor vehicles[2]	100.1	100.8	100.4	100.8	101.0	100.8	100.6	100.4	100.4	100.8	101.5	102.1	102.3	102.2	101.9
New vehicles	142.9	142.8	143.3	143.5	143.3	142.9	142.5	141.9	141.4	141.6	142.7	143.6	143.7	143.3	142.8
Used cars and trucks[1]	152.0	155.8	153.0	154.0	155.4	155.7	155.3	155.2	156.2	157.9	159.3	160.2	160.4	160.4	159.9
Motor fuel	100.7	129.3	131.7	128.7	128.3	139.0	136.1	128.4	135.2	133.1	133.0	127.8	126.6	127.5	124.1
Gasoline (all types)	100.1	128.6	130.9	127.9	127.6	138.3	135.4	127.7	134.3	132.3	132.2	127.0	125.8	126.8	123.3
Motor vehicle parts and equipment	100.5	101.5	101.4	101.0	101.1	101.2	101.5	101.5	101.7	101.7	102.5	103.1	103.6	104.0	104.7
Motor vehicle maintenance and repair	171.9	177.3	175.7	175.9	176.3	176.8	177.2	178.2	178.7	179.4	179.9	179.9	180.6	181.5	181.7
Public transportation	197.7	209.6	209.8	209.2	210.4	212.6	213.7	215.7	213.0	208.0	209.1	209.5	210.2	212.1	210.0
Medical care	250.6	260.8	258.1	258.8	259.4	260.5	261.4	262.6	263.1	263.7	264.1	264.8	267.1	268.9	270.0
Medical care commodities	230.7	238.1	236.3	237.0	237.5	238.2	238.6	239.2	239.4	239.6	240.0	241.1	242.3	243.8	244.9
Medical care services	255.1	266.0	263.2	263.9	264.4	265.6	266.7	268.0	268.7	269.4	269.8	270.4	273.0	274.9	275.9
Professional services	229.2	137.7	236.1	236.6	237.1	237.9	238.3	238.9	239.3	239.7	239.8	240.3	242.6	244.1	244.8
Hospital and related services	299.5	317.3	311.5	312.7	313.5	315.6	318.1	321.3	322.5	323.6	324.7	325.3	328.5	331.0	332.8
Recreation[2]	102.1	103.3	102.9	102.9	103.1	103.4	103.7	103.9	103.8	103.8	103.7	103.7	104.1	104.3	104.3
Video and audio[1,2]	100.7	101.0	100.9	100.3	101.3	101.5	101.3	101.6	101.5	101.0	100.9	100.7	101.2	101.6	101.6
Education and communication[2]	101.2	102.5	102.0	101.8	101.8	101.5	102.0	102.8	102.9	103.6	103.2	103.6	103.9	104.0	104.3
Education[2]	107.0	112.5	110.6	110.7	110.9	111.5	111.8	113.0	114.9	115.3	115.4	115.5	115.8	116.0	116.1
Educational books and supplies	261.7	279.9	276.9	276.7	276.8	277.5	278.1	280.2	284.8	285.2	284.8	285.4	289.2	290.4	290.8
Tuition, other school fees, and child care	308.4	324.0	318.3	318.7	319.2	320.9	321.7	325.4	330.8	332.1	332.5	332.7	333.3	333.7	334.0
Communication[1,2]	96.0	93.6	94.3	93.8	93.7	92.6	93.3	93.7	92.1	93.1	92.3	93.0	93.3	93.2	93.7
Information and information processing[1,2]	95.5	92.8	93.6	93.1	93.0	91.8	92.5	93.0	91.3	92.3	91.5	92.2	92.4	92.2	92.7
Telephone services[1,2]	100.1	98.5	98.9	98.6	98.5	97.2	98.2	98.9	97.0	98.3	97.5	98.4	98.8	98.7	99.4
Information and information processing other than telephone services[1,4]	30.5	25.9	27.2	26.7	26.6	26.0	25.7	25.2	25.0	24.7	24.2	23.8	23.2	22.9	22.5
Personal computers and peripheral equipment[1,2]	53.5	41.1	44.2	42.7	42.4	41.2	40.3	39.5	38.9	38.3	37.3	36.5	35.0	33.9	32.4 33.9
Other goods and services	258.3	271.1	268.0	271.9	270.2	269.6	272.2	271.6	274.7	273.0	276.2	274.0	275.9	277.2	277.7
Tobacco and smoking products	355.8	394.9	387.3	404.4	393.5	388.5	400.7	394.1	408.0	396.7	411.0	396.6	404.3	408.5	407.7
Personal care[1]	161.1	165.6	164.3	164.8	165.1	165.4	165.7	166.2	166.6	167.0	167.4	167.8	168.2	168.6	169.1
Personal care products[1]	151.8	153.7	153.5	153.4	153.0	153.6	153.7	154.3	154.3	153.4	153.9	155.5	155.3	155.3	155.7
Personal care services[1]	171.4	178.1	176.2	176.2	177.3	177.9	178.2	179.3	179.9	180.3	180.6	181.3	181.6	181.9	182.2

See footnotes at end of table.

28. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Miscellaneous personal services	243.0	252.3	249.4	250.9	251.7	252.0	252.9	253.6	254.0	255.1	255.7	255.7	257.3	258.6	259.5
Commodity and service group:															
Commodities	144.4	149.2	149.2	149.3	149.2	149.7	149.3	148.6	150.3	150.4	150.6	150.0	150.0	150.6	150.7
Food and beverages	164.6	168.4	167.1	167.2	167.8	167.9	169.4	169.2	169.4	169.6	169.5	170.5	171.4	171.8	172.2
Commodities less food and beverages	132.5	137.7	138.4	138.4	138.0	138.6	137.7	136.4	138.8	138.9	139.3	137.8	137.4	138.1	138.0
Nondurables less food and beverages	137.5	147.4	148.5	148.5	147.6	149.1	147.5	145.6	149.9	149.9	150.2	147.2	146.4	147.7	147.9
Apparel	131.3	129.6	132.5	133.3	132.2	128.3	124.5	125.3	130.4	132.8	131.8	127.8	125.4	128.4	132.2
Nondurables less food, beverages, and apparel	146.0	162.5	162.7	162.3	161.5	165.8	165.4	162.0	165.9	164.7	165.7	163.1	163.2	163.7	161.9
Durables	126.0	125.4	125.6	125.6	125.8	125.4	125.2	124.7	124.8	125.0	125.5	125.9	125.9	125.9	125.5
Services	188.8	195.3	193.3	193.5	193.8	195.3	196.3	197.0	197.2	197.6	197.6	198.0	200.2	201.0	201.8
Rent of shelter[3]	195.0	201.3	200.1	200.2	200.3	201.2	202.1	202.7	202.6	203.3	203.2	203.1	204.5	205.7	207.2
Transporatation services	190.7	196.1	195.0	195.2	195.7	196.1	196.5	197.4	197.2	197.0	198.0	198.3	199.1	200.3	200.2
Other services	223.1	229.9	227.8	228.0	228.4	228.7	229.9	231.3	231.5	232.6	232.4	233.0	234.1	234.8	235.4
Special indexes:															
All items less food	167.0	173.0	172.0	172.2	172.2	173.3	173.6	173.5	174.6	174.9	175.0	174.7	175.9	176.6	177.1
All items less shelter	160.2	165.7	164.8	164.9	165.1	166.0	166.2	166.0	167.4	167.5	167.7	167.5	168.6	169.1	169.2
All items less medical care	162.0	167.3	166.4	166.5	166.6	167.6	167.9	167.9	168.8	169.1	169.2	169.0	170.1	170.8	171.2
Commodities less food	134.0	139.2	139.9	139.9	139.4	140.1	139.2	138.0	140.3	140.4	140.8	139.3	139.0	139.7	139.6
Nondurables less food	139.4	149.1	150.1	150.1	149.3	150.7	149.3	147.5	151.5	151.6	151.8	149.0	148.3	149.6	149.8
Nondurables less food and apparel	147.5	162.9	163.0	162.7	161.9	166.0	165.7	162.6	166.2	165.1	166.0	163.6	163.9	164.3	162.7
Nondurables	151.2	158.2	158.1	158.2	158.0	158.8	158.4	157.6	160.0	160.1	160.2	159.1	159.1	160..0	160.3
Services less rent of shelter[3]	195.8	202.9	199.9	200.2	200.9	202.9	204.2	205.0	205.7	205.8	205.9	206.9	210.0	210.5	210.6
Services less medical care services	182.7	188.9	186.9	187.1	187.4	188.9	189.9	190.5	190.7	191.1	191.1	191.5	193.6	194.3	195.1
Energy	106.6	124.6	122.2	120.7	121.0	129.6	129.7	125.9	130.6	129.3	129.0	128.1	132.5	132.0	129.5
All items less energy	174.4	178.6	177.8	178.1	178.2	178.3	178.7	179.1	179.6	180.1	180.3	180.2	181.0	181.8	182.6
All items less food and energy	177.0	181.3	180.5	180.9	180.9	181.0	181.3	181.7	182.3	182.8	183.0	182.8	183.5	184.4	185.3
Commodities less food and energy	144.1	144.9	145.3	145.9	145.5	144.5	143.8	143.7	145.1	145.6	146.0	145.1	144.8	145.9	146.2
Energy commodities	100.0	129.5	131.7	128.4	127.9	137.6	135.0	127.9	135.2	133.6	133.8	129.3	128.6	129.1	125.4
Services less energy	195.7	202.1	200.7	200.9	201.2	201.9	202.7	203.5	203.5	204.1	204.2	204.4	205.7	206.8	207.7
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	163.2	168.9	167.9	168.0	168.2	169.2	169.4	169.3	170.4	170.6	170.9	170.7	171.7	172.4	172.6
All items (1967 = 100)	486.2	503.1	500.0	500.4	501.1	504.1	504.7	504.2	507.6	508.2	509.0	508.5	511.6	513.4	514.2
Food and beverages	163.8	167.7	166.4	166.5	167.2	167.3	168.0	168.6	168.8	169.0	168.8	169.8	170.8	171.2	171.6
Food	163.4	167.2	165.9	166.0	166.7	166.8	167.6	189.9	168.3	168.5	168.3	169.3	170.3	170.8	171.1
Food at home	163.0	166.8	165.3	165.4	166.4	166.3	167.3	156.8	168.1	168.1	167.8	169.1	170.3	170.8	171.1
Cereals and bakery products	184.7	188.0	185.9	186.9	188.4	187.3	189.2	161.0	188.4	189.9	188.6	190.4	190.9	191.7	191.7
Meats, poultry, fish, and eggs	147.6	154.1	152.0	152.5	153.5	154.6	155.4	202.5	156.6	156.4	155.3	156.3	157.9	159.2	160.0
Dairy and related products[1]	159.4	160.5	158.7	160.2	159.3	159.4	160.5	138.2	161.6	161.9	161.4	161.5	163.8	163.5	163.1
Fruits and vegetables	201.8	203.4	200.5	200.5	203.1	198.9	200.0	201.5	203.6	204.7	205.8	213.3	210.9	210.1	209.8
Nonalcoholic beverages and beverage materials	133.2	136.9	137.8	136.7	136.4	136.7	137.5	137.4	137.1	136.6	137.1	135.8	138.7	139.3	18.8
Other foods at home	152.8	155.1	154.5	153.4	154.9	155.6	156.0	156.2	156.1	155.3	155.4	155.8	157.3	157.3	158.2
Sugar and sweets	152.2	153.9	154.5	152.3	153.6	153.9	154.2	154.4	154.4	153.8	152.7	153.3	155.4	155.6	155.6
Fats and oils	147.9	147.2	145.7	144.5	146.9	146.4	147.9	148.6	148.5	149.4	146.3	149.9	152.8	152.4	153.0
Other foods	168.8	172.3	171.6	170.7	172.2	173.4	173.5	173.6	173.5	172.0	173.4	173.0	174.0	174.1	175.4
Other miscellaneous foods[1,2]	104.6	107.1	106.7	104.7	106.1	108.0	108.4	109.0	107.5	106.3	109.6	108.6	108.5	108.5	108.5
Food away from home[1]	165.0	169.0	167.9	168.1	168.3	168.6	169.1	169.5	170.0	170.3	170.5	170.8	171.4	171.8	172.3
Other food away from home[1,2]	105.1	109.2	107.8	108.3	108.5	108.4	108.8	109.6	110.4	110.9	111.2	111.4	111.5	111.6	111.8
Alcoholic beverages	168.8	173.8	172.8	172.9	172.9	173.6	174.4	174.7	174.4	174.8	175.6	175.8	176.5	177.0	177.2
Housing	160.0	165.4	163.4	163.6	163.9	165.5	166.4	166.6	167.3	167.5	167.6	168.1	170.2	170.5	171.0
Shelter	181.6	187.4	186.0	186.2	186.5	187.2	187.9	188.4	188.7	189.3	189.5	189.6	190.6	191.5	192.6
Rent of primary residence	177.1	183.4	181.5	181.8	182.2	182.7	183.4	184.1	184.8	185.6	186.2	187.0	187.7	188.3	189.0
Lodging away from home[2]	122.2	117.3	119.9	118.7	117.8	120.9	123.1	122.5	118.3	118.6	113.9	108.7	113.8	118.5	123.8
Owners' equivalent rent of primary residence[3]	175.7	180.8	179.2	179.6	179.9	180.4	180.8	181.3	181.9	182.4	183.0	183.5	184.1	184.5	185.2
Tenants' and household insurance[1,2]	101.6	103.9	102.8	103.3	104.0	104.1	104.4	104.2	104.4	104.4	104.7	104.9	105.2	105.3	105.6
Fuels and utilities	128.7	137.4	131.2	131.1	131.9	138.7	141.0	140.4	143.4	142.5	142.0	144.6	153.2	151.5	149.9
Fuels	113.0	121.8	115.4	115.2	116.0	123.3	125.7	125.0	128.2	127.2	126.5	129.3	138.6	136.6	134.8
Fuel oil and other fuels	91.7	128.8	129.6	123.0	120.9	120.2	120.1	120.1	133.1	136.7	139.3	144.1	150.1	145.0	138.0
Gas (piped) and electricity	120.4	127.5	120.2	120.5	121.6	129.9	132.5	131.8	134.4	133.0	132.1	134.8	144.8	143/0	141.5
Household furnishings and operations	124.7	125.5	125.3	125.6	125.5	125.3	125.7	125.7	126.1	125.8	126.0	125.6	125.7	125.9	125.9
Apparel	130.1	128.3	131.0	131.8	130.9	127.3	123.6	124.0	128.7	131.3	130.5	126.6	124.1	127.0	130.6
Men's and boys' apparel	131.2	129.7	131.5	131.5	132.7	129.5	126.6	126.8	128.8	130.3	131.3	128.0	125.8	126.9	127.6
Women's and girls' apparel	121.3	119.3	123.5	124.3	122.1	117.4	112.2	113.2	121.5	125.5	122.6	117.5	113.2	118.4	125.2
Infants' and toddlers' apparel[1]	130.3	132.3	135.7	134.1	133.4	132.0	129.8	128.4	129.0	132.6	132.7	130.0	129.0	131.0	133.3
Footwear	126.2	124.2	124.7	127.1	126.6	124.6	120.9	121.5	124.8	125.5	125.7	124.0	121.5	122.4	125.2
Transportation	143.4	152.8	152.9	152.2	152.5	155.5	154.4	152.3	154.2	154.0	154.9	153.9	154.0	154.5	153.3
Private transportation	140.7	150.1	150.1	149.5	149.7	152.8	151.6	149.3	151.4	151.3	152.2	151.2	151.2	151.7	150.5
New and used motor vehicles[2]	100.4	101.4	100.8	101.2	101.5	101.4	101.1	100.9	101.0	101.4	102.2	102.8	102.9	102.8	102.5

See footnotes at end of table.

28. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2000										2001		
	1999	2000	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
New vehicles	144.0	143.9	144.5	144.7	144.5	144.1	143.7	143.1	142.5	142.7	143.7	144.6	144.8	144.5	143.8
Used cars and trucks[1]	153.3	157.1	154.4	155.4	156.8	157.1	156.6	156.5	157.5	159.3	160.7	161.6	161.7	161.7	161.1
Motor fuel	100.8	129.5	132.0	128.5	128.5	140.1	136.2	128.0	135.3	133.1	133.2	127.7	126.9	127.8	124.1
Gasoline (all types)	100.2	128.8	131.2	127.8	127.9	139.4	135.5	127.3	134.6	132.3	132.4	126.9	126.2	127.1	123.4
Motor vehicle parts and equipment	100.0	100.9	100.9	100.6	100.5	100.5	100.8	100.7	100.9	101.0	101.8	102.3	103.0	103.4	104.0
Motor vehicle maintenance and repair	173.3	178.8	177.2	177.4	177.8	178.3	178.7	179.6	180.2	180.9	181.4	181.5	182.1	183.1	183.3
Public transportation	193.1	203.4	203.4	202.9	203.9	205.5	206.9	208.7	206.4	202.4	203.2	203.7	204.3	205.8	204.2
Medical care	249.7	259.9	257.3	258.0	258.5	259.7	260.6	261.7	262.2	262.8	263.1	263.8	266.3	268.1	269.1
Medical care commodities	226.8	233.6	231.8	232.4	232.9	233.7	234.2	234.6	235.0	235.2	235.5	236.5	237.8	239.1	240.2
Medical care services	254.9	265.9	263.1	263.8	264.4	265.6	266.6	267.9	268.5	269.2	269.4	270.1	272.8	274.7	275.7
Professional services	230.8	239.6	238.0	238.6	239.0	239.9	240.3	240.9	241.3	241.8	241.7	242.3	244.9	246.4	247.0
Hospital and related services	295.5	313.2	307.5	308.7	309.5	311.7	314.2	317.1	318.2	319.2	320.3	320.9	323.9	326.6	328.3
Recreation[2]	101.3	102.4	102.0	102.0	102.3	102.5	102.7	102.9	102.8	102.8	102.7	102.6	103.0	103.1	103.0
Video and audio[1,2]	100.5	100.7	100.6	100.0	101.0	101.2	100.9	101.3	101.1	100.7	100.6	100.3	100.8	101.2	101.0
Education and communication[2]	101.5	102.7	102.2	102.1	102.1	101.7	102.2	103.0	102.9	103.7	103.2	103.7	104.0	104.1	104.4
Education[2]	107.2	112.8	111.0	111.1	111.3	111.8	112.1	113.2	115.1	115.4	115.6	115.7	116.0	116.2	116.3
Educational books and supplies	264.1	283.3	280.0	279.9	280.0	280.9	281.5	283.6	288.6	289.0	288.6	289.2	292.9	294.1	294.7
Tuition, other school fees, and child care	302.8	318.2	312.8	313.4	313.8	315.4	316.2	319.2	324.7	325.7	326.3	326.5	327.0	327.4	327.9
Communication[1,2]	96.9	94.6	95.3	94.8	94.7	93.6	94.3	94.8	93.1	94.2	93.3	94.1	94.4	94.4	94.8
Information and information processing[1,2]	96.5	94.1	94.8	94.4	94.3	93.0	93.9	94.4	92.6	93.8	92.8	93.6	93.8	93.7	94.1
Telephone services[1,2]	100.2	98.7	99.1	98.8	98.7	97.4	98.4	99.1	97.1	98.6	97.6	98.6	99.0	98.9	99.5
Information and information processing other than telephone services[1,4]	31.6	26.8	28.2	27.6	27.5	27.0	26.6	26.1	25.9	25.5	25.1	24.6	24.0	23.8	23.3
Personal computers and peripheral equipment[1,2]	53.1	40.5	43.6	42.0	41.8	40.7	39.8	39.1	38.5	37.8	36.7	35.9	34.3	33.4	31.8
Other goods and services	261.9	276.5	273.3	278.0	275.4	274.5	277.9	276.8	280.9	278.2	282.3	279.2	281.5	283.2	283.5
Tobacco and smoking products	356.2	395.2	387.8	404.9	393.7	388.7	400.9	394.2	408.2	397.0	411.3	396.9	404.6	409.2	408.5
Personal care[1]	161.3	165.5	164.3	164.6	164.9	165.3	165.5	166.1	166.5	166.8	167.1	167.7	168.1	168.5	169.0
Personal care products[1]	152.5	154.2	154.1	153.9	153.4	154.0	154.1	155.0	155.1	153.9	154.2	155.8	155.7	155.7	155.9
Personal care services[1]	171.7	178.6	176.6	176.6	177.7	178.3	178.6	179.7	180.3	180.8	181.1	181.7	182.1	182.4	182.8
Miscellaneous personal services	243.1	251.9	249.4	250.4	251.2	251.4	252.2	253.0	253.4	254.5	255.1	255.3	257.0	258.4	258,3
Commodity and service group:															
Commodities	144.7	149.8	149.8	149.9	149.9	150.6	150.1	149.3	151.0	151.0	151.4	150.6	150.8	151.4	151.4
Food and beverages	163.8	167.7	166.4	166.5	167.2	167.3	168.0	168.6	168.8	169.0	168.8	169.8	170.8	171.2	171.6
Commodities less food and beverages	133.2	139.0	139.6	139.6	139.3	140.3	139.2	137.7	140.2	140.2	140.8	139.1	138.8	139.5	139.3
Nondurables less food and beverages	138.1	149.1	150.2	150.2	149.4	151.5	149.7	147.2	151.8	151.6	152.1	148.6	148.1	149.4	149.3
Apparel	130.1	128.3	131.0	131.8	130.9	127.3	123.6	124.0	128.7	131.3	130.5	126.6	124.1	127.0	130.6
Nondurables less food, beverages, and apparel	147.2	165.3	165.7	165.2	164.4	169.6	168.7	164.6	169.3	167.6	168.8	165.5	166.0	166.5	164.4
Durables	126.0	125.8	125.8	126.0	126.2	125.9	125.6	125.2	125.3	125.6	126.2	126.6	126.6	126.6	126.2
Services	185.3	191.6	189.2	189.4	189.8	191.2	192.2	193.0	193.4	193.9	194.0	194.5	196.6	197.2	197.8
Rent of shelter[3]	174.9	180.5	179.1	179.3	179.6	180.3	181.0	181.5	181.7	182.3	182.5	182.6	183.6	184.4	185.5
Transporatation services	187.9	192.9	191.8	192.0	192.4	192.6	193.0	193.8	193.7	193.9	195.0	195.2	196.0	197.2	197.2
Other services	219.6	225.9	224.0	224.2	224.6	224.7	225.9	227.3	227.3	228.4	228.1	228.9	229.9	230.6	231.2
Special indexes:															
All items less food	163.1	169.1	168.0	168.2	168.3	169.5	169.6	169.4	170.7	170.9	171.3	170.9	171.9	172.5	172.8
All items less shelter	158.1	163.8	162.8	163.0	163.1	164.3	164.3	163.9	165.4	165.5	165.7	165.5	166.5	167.0	167.0
All items less medical care	159.2	164.7	163.6	163.8	164.0	165.0	165.1	165.0	166.2	166.4	166.6	166.4	167.4	168.0	168.2
Commodities less food	134.6	140.4	141.0	141.0	140.7	141.7	140.6	139.1	141.6	141.6	142.2	140.6	140.3	141.0	140.8
Nondurables less food	140.0	150.7	151.7	151.7	150.9	152.9	151.2	148.9	153.3	153.1	153.6	150.3	149.9	151.1	151.1
Nondurables less food and apparel	148.4	165.4	165.7	165.3	164.5	169.4	168.7	164.9	169.2	167.7	168.8	165.8	166.3	166.8	164.9
Nondurables	151.3	158.9	158.8	158.9	158.8	159.9	159.4	158.3	160.8	160.8	161.0	159.7	159.9	160.8	160.9
Services less rent of shelter[3]	174.1	180.1	177.4	177.7	178.2	180.2	181.3	181.9	182.5	182.7	182.8	183.7	186.6	186.9	187.0
Services less medical care services	179.5	185.4	183.1	183.3	183.7	185.1	186.0	186.6	187.2	187.6	187.7	188.3	190.3	190.8	191.4
Energy	106.1	124.8	122.9	121.0	121.5	130.9	130.1	125.7	130.9	129.3	129.0	127.6	131.8	131.3	128.6
All items less energy	171.1	175.1	174.1	174.5	174.6	174.6	174.9	175.3	176.0	176.5	176.8	176.8	177.4	178.2	178.8
All items less food and energy	173.1	177.1	176.2	176.7	176.7	176.6	176.8	177.2	178.0	178.6	179.0	178.7	179.3	180.1	180.9
Commodities less food and energy	144.3	145.4	145.6	146.4	146.0	145.0	144.5	144.2	145.7	146.1	146.7	145.8	145.5	146.2	146.8
Energy commodities	100.3	129.7	132.0	128.3	128.3	139.1	135.4	127.7	135.4	133.5	133.8	128.9	128.5	129.1	125.1
Services less energy	192.6	198.7	196.9	197.1	197.5	198.0	198.8	199.5	200.0	200.6	200.8	201.1	202.2	203.1	204.0

[1] Not seasonally adjusted.

[2] Indexes on a December 1997 = 100 base.

[3] Indexes on a December 1982 = 100 base.

[4] Indexes on a December 1988 = 100 base.

Dash indicates data not available.

NOTE: Index applied to a month as a whole, not to any specific date.

29. Consumer Price Index: U.S. city average and available local area data: all items

[1982–84 = 100, unless otherwise indicated]

Area	Pricing schedule[1]	2000				2001			2000				2001		
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
U.S. city average	M	173.7	174.0	174.1	174.0	175.1	175.8	176.2	170.4	170.6	170.9	170.7	171.7	172.4	172.6
Region and area size[2]															
Northeast urban	M	180.7	181.2	181.5	181.3	182.2	182.8	183.7	177.6	178.0	178.4	178.3	179.0	179.5	180.3
Size A—More than 1,500,000	M	181.7	182.1	182.4	182.3	183.0	183.7	184.6	177.7	178.0	178.3	178.2	178.8	179.4	180.2
Size B/C—50,000 to 1,500,000[3]	M	108.3	108.8	108.9	108.8	109.6	109.8	110.4	107.9	108.4	108.6	108.6	109.2	109.4	109.8
Midwest urban[4]	M	170.0	170.1	170.3	170.2	171.9	172.1	22.6	166.4	166.4	166.8	166.5	168.2	168.4	167.8
Size A—More than 1,500,000	M	171.5	171.5	171.7	171.6	173.5	173.8	173.3	167.0	166.9	167.2	167.0	168.8	169.1	168.5
Size B/C—50,000 to 1,500,000[3]	M	108.6	108.8	108.9	108.7	109.6	109.8	109.7	108.7	108.7	109.1	108.8	109.7	109.9	109.6
Size D—Nonmetropolitan (less than 50,000)	M	164.5	164.9	165.0	164.9	167.2	166.3	165.9	163.0	163.4	163.7	163.5	165.8	165.0	164.3
South urban	M	168.5	168.5	168.6	168.4	169.3	170.2	170.6	166.8	166.8	166.9	166.7	167.5	168.3	168.7
Size A—More than 1,500,000	M	168.4	168.6	168.5	168.4	169.3	170.4	170.9	166.1	166.3	166.2	166.2	166.9	167.9	168.4
Size B/C—50,000 to 1,500,000[3]	M	108.1	108.1	108.2	108.1	108.6	109.2	109.4	107.9	107.9	108.1	108.0	108.4	109.0	109.1
Size D—Nonmetropolitan (less than 50,000)	M	168.2	167.6	167.3	167.1	168.2	169.1	169.5	169.2	168.8	168.6	168.4	169.4	170.0	170.4
West urban	M	176.6	177.2	177.2	177.1	178.3	179.3	180.1	172.1	172.7	172.8	172.8	173.7	174.6	175.3
Size A—More than 1,500,000	M	178.4	179.0	178.8	179.0	180.1	181.3	182.0	172.1	172.7	172.7	172.9	173.8	174.8	175.4
Size B/C—50,000 to 1,500,000[3]	M	108.8	109.0	109.2	108.9	109.8	110.1	110.7	108.6	108.9	109.1	108.7	109.5	109.8	110.4
Size classes:															
A[5]	M	157.8	158.1	158.2	158.1	159.2	159.9	160.3	156.4	156.6	156.8	156.8	157.7	158.3	158.6
B/C[3]	M	108.3	108.5	108.7	108.5	109.2	109.6	109.8	108.2	108.3	108.6	108.4	109.0	109.4	109.5
D	M	168.7	168.7	168.6	168.5	169.8	170.1	170.3	167.9	168.1	168.1	167.9	169.2	169.4	169.5
Selected local areas[6]															
Chicago–Gary–Kenosha, IL–IN–WI	M	174.8	175.4	176.0	175.8	178.1	178.5	177.1	169.2	169.8	170.4	170.3	172.6	172.9	171.4
Los Angeles–Riverside–Orange County, CA	M	173.3	173.8	173.5	173.5	174.2	175.4	176.2	166.3	166.9	166.6	166.7	167.3	168.3	169.1
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	184.4	184.6	184.6	184.2	184.9	185.3	186.4	179.9	180.2	180.1	180.0	180.6	180.8	181.8
Boston–Brockton–Nashua, MA–NH–ME–CT	1	184.3	–	187.4	–	189.0	–	190.9	183.2	–	186.2	–	187.4	–	189.3
Cleveland–Akron, OH	1	170.5	–	169.4	–	171.3	–	172.3	162.8	–	161.6	–	163.3	–	163.9
Dallas–Ft Worth, TX	1	166.9	–	166.8	–	167.3	–	168.9	166.8	–	166.6	–	166.8	–	168.5
Washington–Baltimore, DC–MD–VA–WV[7]	1	108.7	–	108.5	–	108.9	–	109.7	108.7	–	108.4	–	108.6	–	109.4
Atlanta, GA	2	–	171.9	–	171.9	–	175.3	–	–	169.6	–	169.7	–	172.7	–
Detroit–Ann Arbor–Flint, MI	2	–	171.9	–	171.7	–	173.2	–	–	166.5	–	166.2	–	167.7	–
Houston–Galveston–Brazoria, TX	2	–	157.1	–	156.2	–	158.6	–	–	155.4	–	154.9	–	156.7	–
Miami–Ft. Lauderdale, FL	2	–	169.6	–	169.5	–	171.9	–	–	167.1	–	167.2	–	169.3	–
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	–	177.9	–	177.5	–	179.0	–	–	177.2	–	177.0	–	178.2	–
San Francisco–Oakland–San Jose, CA	2	–	183.4	–	184.1	–	187.9	–	–	179.3	–	180.2	–	183.5	–
Seattle–Tacoma–Bremerton, WA	2	–	182.1	–	181.5	–	184.0	–	–	177.5	–	177.0	–	179.2	–

[1] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:
M—Every month.
1—January, March, May, July, September, and November.
2—February, April, June, August, October, and December.

[2] Regions defined as the four Census regions.

[3] Indexes on a December 1996 = 100 base.

[4] The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

[5] Indexes on a December 1986 = 100 base.

[6] In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed Report*: Anchorage, AK; Cincinnati–Hamilton, OH–KY–IN; Denver–Boulder–Greeley, CO; Honolulu, HI; Kansas City, MO–KS; Milwaukee–Racine, WI; Minneapolis–St. Paul, MN–WI; Pittsburgh, PA; Portland–Salem, OR–WA; St Louis, MO–IL; San Diego, CA; Tampa–St. Petersburg–Clearwater, FL.

[7] Indexes on a November 1996 = 100 base.

Dash indicates data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses. Index applies to a month as a whole, not to any specific date.

30. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

Series	1992	1993	1994	1995	1996	1997	1998	1999	2000
Consumer Price Index for All Urban Consumers:									
All items:									
Index	140.3	144.5	148.2	152.4	156.9	160.5	163.0	166.6	172.2
Percent change	3.0	3.0	2.6	2.8	3.0	2.3	1.6	2.2	3.4
Food and beverages:									
Index	138.7	141.6	144.9	148.9	153.7	157.7	161.1	164.6	168.4
Percent change	1.4	2.1	2.3	2.8	3.2	2.6	2.2	2.2	2.3
Housing:									
Index	137.5	141.2	144.8	148.5	152.8	156.8	160.4	163.9	169.6
Percent change	2.9	2.7	2.5	2.6	2.9	2.6	2.3	2.2	3.5
Apparel:									
Index	131.9	133.7	133.4	132.0	131.7	132.9	133.0	131.3	129.6
Percent change	2.5	1.4	–.2	–1.0	–.2	.9	.1	–1.3	–1.3
Transportation:									
Index	126.5	130.4	134.3	139.1	143.0	144.3	141.6	144.4	153.3
Percent change	2.2	3.1	3.0	3.6	2.8	0.9	–1.9	2.0	6.2
Medical care:									
Index	190.1	201.4	211.0	220.5	228.2	234.6	242.1	250.6	260.8
Percent change	7.4	5.9	4.8	4.5	3.5	2.8	3.2	3.5	4.1
Other goods and services:									
Index	183.3	192.9	198.5	206.9	215.4	224.8	237.7	258.3	271.1
Percent change	6.8	5.2	2.9	4.2	4.1	4.4	5.7	8.7	5.0
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	138.2	142.1	145.6	149.8	154.1	157.6	159.7	163.2	168.9
Percent change	2.9	2.8	2.5	2.9	2.9	2.3	1.3	2.2	3.5

31. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2000										2001		
	1999	2000[P]	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Finished goods	133.0	138.0	136.8	136.7	137.3	138.6	138.6	138.2	139.4	140.1	140.0	139.7	141.2	141.5	141.0
Finished consumer goods	132.0	138.1	136.7	136.5	137.4	139.1	139.0	138.6	140.1	140.7	140.5	140.1	141.9	142.5	141.9
Finished consumer foods	135.1	137.1	136.0	137.3	138.2	137.6	137.5	137.2	137.4	138.0	138.2	137.9	138.4	139.5	140.9
Finished consumer goods excluding foods	130.5	138.4	136.8	136.0	136.9	139.6	139.5	139.0	141.1	141.6	141.3	140.8	143.3	143.6	142.1
Nondurable goods less food	127.9	138.6	136.4	135.3	136.5	140.5	140.5	140.0	143.0	142.6	142.1	141.5	144.9	145.9	143.8
Durable goods	133.0	133.9	133.8	133.9	133.8	133.4	133.1	132.7	132.5	135.3	135.4	135.3	135.2	134.2	134.1
Capital equipment	137.6	138.8	138.5	138.5	138.6	138.5	138.6	138.5	138.6	139.8	139.9	139.9	140.2	139.7	139.7
Intermediate materials, supplies, and components	123.2	129.1	127.8	128.0	128.3	129.8	130.3	129.9	131.1	130.8	130.5	130.6	131.5	131.3	130.8
Materials and components for manufacturing	124.6	128.1	127.6	128.2	128.5	128.6	128.9	128.6	128.5	128.4	128.0	128.1	128.6	128.8	128.9
Materials for food manufacturing	120.8	119.2	118.1	119.6	120.5	120.6	120.5	119.4	119.0	119.1	118.9	119.8	120.4	120.3	122.3
Materials for nondurable manufacturing	124.9	132.7	131.3	132.3	133.3	133.7	134.5	133.9	133.6	133.7	133.3	133.5	135.0	136.1	135.8
Materials for durable manufacturing	125.1	129.1	129.7	130.0	129.6	129.4	129.4	129.0	129.3	128.8	127.5	128.0	127.2	127.0	126.7
Components for manufacturing	125.7	126.2	126.0	126.1	126.0	126.2	126.3	126.3	126.4	126.4	126.5	126.1	126.4	126.2	126.4
Materials and components for construction	148.9	150.7	151.3	151.6	151.0	151.2	150.8	150.4	150.3	150.2	150.1	149.9	149.6	150.0	150.2
Processed fuels and lubricants	84.6	102.0	97.4	95.7	96.5	103.3	105.0	104.5	110.5	109.2	108.8	108.3	111.4	109.9	106.9
Containers	142.5	151.6	148.1	151.6	152.7	153.3	153.3	153.0	153.3	153.4	153.0	153.0	153.0	153.0	152.8
Supplies	134.2	136.8	136.0	136.4	136.7	137.1	137.3	137.0	137.4	137.7	138.0	138.1	138.9	138.5	138.7
Crude materials for further processing	98.2	119.8	112.9	111.3	115.9	125.6	122.7	118.3	126.0	130.3	128.4	136.2	155.0	133.2	26.2
Foodstuffs and feedstuffs	98.7	100.2	101.4	103.4	104.9	101.9	99.3	95.5	97.6	99.5	100.4	103.9	105.3	104.5	108.9
Crude nonfood materials	94.3	129.0	116.7	112.7	119.3	137.3	134.4	129.7	141.0	146.7	143.0	153.5	183.5	148.2	142.2
Special groupings:															
Finished goods, excluding foods	132.3	138.1	136.9	136.4	137.0	138.8	138.8	138.4	139.9	140.6	140.4	140.1	141.9	142.0	140.9
Finished energy goods	78.8	94.2	90.9	89.2	90.9	97.7	97.3	95.9	100.6	99.6	98.9	97.9	101.9	103.6	99.7
Finished goods less energy	143.0	144.8	144.3	144.6	145.0	144.7	144.7	144.7	144.8	146.0	146.1	145.9	146.7	146.6	147.1
Finished consumer goods less energy	145.2	147.3	146.7	147.2	147.6	147.3	147.3	147.3	147.5	148.6	148.7	148.5	149.4	149.5	150.2
Finished goods less food and energy	146.1	147.9	147.5	147.5	147.7	147.5	147.6	147.7	147.8	149.2	149.2	149.1	150.0	149.4	149.5
Finished consumer goods less food and energy	151.7	153.9	153.6	153.5	153.7	153.6	153.5	153.8	154.0	155.5	155.4	155.3	156.5	155.9	156.1
Consumer nondurable goods less food and energy	166.3	169.7	169.1	168.9	169 3	169.4	169.6	170.4	170.9	171.3	171.2	171.0	173.2	173.2	173.5
Intermediate materials less foods and feeds	123.9	130.1	128.8	128.9	129.2	130.7	131.2	131.0	132.2	131.9	131.5	131.5	132.4	132.3	131.7
Intermediate foods and feeds	111.1	111.7	111.0	111.9	113.4	113.4	112.7	110.6	111.1	111.5	111.7	113.5	115.1	113.6	114.1
Intermediate energy goods	84.3	101.7	97.1	95.4	96.3	103.0	104.6	104.2	110.1	108.8	107.6	107.9	110.9	109.5	106.4
Intermediate goods less energy	131.7	135.0	134.5	135.1	135.3	135.5	135.7	135.3	135.4	135.4	135.2	135.3	135.8	135.8	136.0
Intermediate materials less foods and energy	133.1	136.5	136.1	136.6	136.7	137.0	137.2	137.0	137.0	137.0	136.8	136.8	137.1	137.3	137.4
Crude energy materials	78.5	120.3	102.5	97.9	106.5	130.6	127.6	122.4	136.7	144.8	140.9	154.7	193.4	148.3	141.0
Crude materials less energy	107.9	111.7	114.1	115.1	116.1	113.4	110.8	107.4	109.2	110.1	109.9	112.4	113.7	112.4	115.2
Crude nonfood materials less energy	135.2	145.2	150.9	149.2	148.8	146.7	144.3	141.9	142.9	141.0	137.8	137.5	138.7	136.1	134.6

32. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		2000										2001		
		1999	2000[P]	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
–	**Total mining industries**	78.0	112.2	98.9	95.7	100.6	118.4	118.1	113.8	124.7	131.8	128.9	139.6	170.8	138.2	130.7
10	Metal mining	70.3	73.5	73.3	71.8	72.6	73.7	73.9	73.4	75.2	75.1	73.3	73.5	73.5	72.4	73.1
12	Coal mining (12/85 = 100)	87.3	84.7	84.8	85.9	86.1	85.1	85.6	83.3	83.5	83.6	84.1	84.8	83.6	90.8	90.3
13	Oil and gas extraction (12/85 = 100)	78.5	125.0	107.0	102.7	109.1	133.1	132.8	127.4	141.9	151.5	147.7	162.0	204.4	159.4	149.3
14	Mining and quarrying of nonmetallic minerals, except fuels	134.0	137.1	135.7	136.7	137.2	137.2	137.6	137.8	138.0	138.0	138.0	138.2	139.3	140.1	140.8
–	**Total manufacturing industries**	128.3	133.5	132.9	132.6	133.1	134.2	133.9	133.5	134.7	134.9	134.9	134.4	134.7	134.7	134.6
20	Food and kindred products	126.3	128.5	127.4	128.1	129.3	129.4	129.4	128.7	128.5	128.7	128.8	129.6	130.1	130.4	131.7
21	Tobacco manufactures	325.7	345.8	347.3	341.8	341.7	342.2	342.3	350.4	351.1	351.6	351.6	351.8	372.4	372.4	372.3
22	Textile mill products	116.3	116.7	116.5	116.5	116.5	116.6	116.7	116.9	116.6	116.8	117.0	117.5	117.4	117.9	117.0
23	Apparel and other finished products made from fabrics and similar materials	125.3	125.7	125.6	125.7	125.6	125.6	125.9	125.9	125.9	126.0	125.7	125.9	125.7	125.7	125.7
24	Lumber and wood products, except furniture	161.8	158.1	162.1	161.7	159.1	158.7	157.6	155.7	155.3	155.0	154.5	154.2	153.2	153.8	154.5
25	Furniture and fixtures	141.3	143.3	143.0	143.2	143.4	143.5	143.5	143.6	143.5	143.7	143.8	143.8	144.2	144.3	144.8
26	Paper and allied products	136.4	145.8	143.2	145.4	146.9	147.3	147.3	147.3	147.7	147.6	147.5	147.0	147.4	147.0	147.0
27	Printing, publishing, and allied industries	177.6	182.8	181.1	182.0	182.0	183.1	183.2	183.6	183.6	184.9	185.0	185.1	186.8	187.2	187.6
28	Chemicals and allied products	149.7	156.8	155.2	155.5	156.4	156.5	157.4	157.5	158.3	158.6	158.3	159.0	160.4	161.6	161.9
29	Petroleum refining and related products	76.8	112.9	111.0	105.6	109.0	119.9	115.7	112.6	125.1	121.8	121.9	114.4	112.5	112.0	107.3
30	Rubber and miscellaneous plastics products	122.2	124.3	123.5	123.7	123.6	124.4	125.0	124.7	125.4	125.3	126.5	124.8	126.0	126.1	126.8
31	Leather and leather products	136.5	137.8	137.4	137.6	137.4	137.2	137.5	137.8	138.4	138.4	138.8	138.9	139.1	140.6	140.9
32	Stone, clay, glass, and concrete products	132.6	134.6	134.7	135.0	135.1	135.1	134.8	134.5	134.8	134.5	134.3	134.1	134.4	135.0	135.4
33	Primary metal industries	115.8	119.9	120.0	120.3	120.5	120.2	120.3	120.4	120.5	120.2	119.0	119.2	118.5	118.0	117.4
34	Fabricated metal products, except machinery and transportation transportation equipment	129.1	130.3	130.3	130.4	130.2	130.3	130.3	130.4	130.5	130.6	130.5	130.5	130.6	130.7	130.8
35	Machinery, except electrical	117.3	117.5	117.4	117.4	117.4	117.5	117.6	117.6	117.6	117.6	117.7	117.7	117.7	117.8	117.8
36	Electrical and electronic machinery, equipment, and supplies	109.5	108.3	108.6	108.6	108.4	108.5	108.5	108.1	108.1	108.0	107.9	107.7	107.7	107.6	107.5
37	Transportation	134.5	136.7	136.4	136.5	136.5	136.0	136.1	135.7	135.7	138.4	138.6	138.4	138.7	137.6	137.9
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	125.7	126.2	126.0	126.0	126.3	126.2	126.2	126.2	126.3	126.4	121.8	126.4	126.9	127.1	126.9
39	Miscellaneous manufacturing industries (12/85 = 100)	130.3	130.9	130.8	130.9	130.5	130.7	130.9	131.0	131.0	131.0	131.2	131.3	131.7	131.9	132.3
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100)	114.8	119.3	118.1	118.2	118.6	119.0	118.9	120.1	121.2	121.4	121.8	121.5	121.9	122.5	122.6
43	U.S. Postal Service (06/89 = 100)	135.3	135.2	135.2	135.2	135.2	135.2	135.2	135.2	135.2	135.2	135.2	135.2	141.3	141.3	141.3
44	Water transportation (12/92 = 100)	113.0	123.0	117.8	118.6	123.8	124.1	125.2	126.1	127.0	126.5	124.2	126.1	125.8	127.8	126.8
45	Transportation by air (12/92 = 100)	130.8	147.6	144.3	145.4	146.0	147.2	147.6	147.9	151.5	152.5	152.7	154.2	154.7	154.0	155.4
46	Pipelines, except natural gas (12/92 = 100)	98.3	102.3	101.9	101.9	102.0	102.1	102.5	102.5	102.4	102.7	102.7	102.7	109.1	109.1	108.9

33. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1992	1993	1994	1995	1996	1997	1998	1999	2000[P]
Finished goods									
Total	123.2	124.7	125.5	127.9	131.3	131.8	130.7	133.0	138.0
Foods	123.3	125.7	126.8	129.0	133.6	134.5	134.3	135.1	137.1
Energy	77.8	78.0	77.0	78.1	83.2	83.4	75.1	78.8	94.2
Other	134.2	135.8	137.1	140.0	142.0	142.4	143.7	146.1	147.9
Intermediate materials, supplies, and components									
Total	114.7	116.2	118.5	124.9	125.7	125.6	123.0	123.2	129.1
Foods	113.9	115.6	118.5	119.5	125.3	123.2	123.2	120.8	119.2
Energy	84.3	84.6	83.0	84.1	89.8	89.0	80.8	84.3	101.7
Other	122.0	123.8	127.1	135.2	134.0	134.2	133.5	133.1	136.5
Crude materials for further processing									
Total	100.4	102.4	101.8	102.7	113.8	111.1	96.8	98.2	119.8
Foods	105.1	108.4	106.5	105.8	121.5	112.2	103.9	98.7	100.2
Energy	78.8	76.7	72.1	69.4	85.0	87.3	68.6	78.5	120.3
Other	94.2	94.1	97.0	105.8	105.7	103.5	84.5	91.1	118.2

34. U.S. export price indexes by Standard International Trade Classification

[1995 = 100]

SITC Rev. 3	Industry	2000										2001		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
0	**Food and live animals**	86.8	87.5	88.3	87.4	85.8	83.6	85.9	87.1	88.5	88.7	89.8	88.5	89.0
01	Meat and meat preparations	99.4	102.2	105.1	109.3	108.2	103.7	105.2	107.4	107.6	105.9	105.4	107.1	107.1
04	Cereals and cereal preparations	74.4	74.0	75.0	71.6	66.9	64.0	67.8	70.8	74.0	75.8	78.8	76.4	77.2
05	Vegetables, fruit, and nuts, prepared fresh or dry	88.6	90.6	90.1	87.8	91.3	88.6	91.9	88.7	89.8	88.9	86.9	86.2	87.5
2	**Crude materials, inedible, except fuels**	83.2	84.2	85.2	84.4	82.9	82.9	83.7	83.5	82.2	82.6	82.0	80.9	80.1
21	Hides, skins, and furskins, raw	87.7	85.5	86.5	86.7	89.7	95.4	100.5	104.7	102.1	103.3	105.6	106.5	107.8
22	Oilseeds and oleaginous fruits	86.0	88.3	89.1	86.3	80.3	78.0	83.8	81.3	79.3	85.0	83.9	78.1	79.0
24	Cork and wood	87.2	87.4	86.7	86.7	86.5	88.4	86.9	87.2	86.5	85.9	85.2	84.3	83.5
25	Pulp and waste paper	90.0	93.8	99.0	97.6	95.9	91.7	90.7	89.8	88.6	85.9	85.8	83.6	82.3
26	Textile fibers and their waste	68.6	68.9	69.0	69.6	67.7	70.7	72.2	72.0	72.2	73.2	70.4	70.6	67.6
27	Crude fertilizers and crude minerals	93.5	93.0	93.0	93.3	93.3	93.1	91.5	90.7	90.6	90.6	90.9	90.9	90.2
28	Metalliferous ores and metal scrap	80.9	80.4	79.6	78.2	78.0	78.7	78.7	79.5	76.2	74.7	74.1	74.7	74.5
3	**Mineral fuels, lubricants, and related products**	152.1	137.2	142.3	144.9	151.2	147.6	166.3	157.2	162.1	157.4	157.5	159.5	152.5
32	Coal, coke, and briquettes	96.1	94.7	94.5	93.8	93.8	93.1	93.1	93.3	93.1	93.0	93.1	93.1	93.6
33	Petroleum, petroleum products, and related materials	179.2	152.0	163.0	168.2	178.3	172.3	203.3	189.0	193.4	183.6	181.1	185.2	172.5
4	**Animal and vegetable oils, fats, and waxes**	70.8	71.6	70.1	67.1	64.6	63.2	61.7	60.0	59.0	58.7	61.0	60.8	60.6
5	**Chemicals and related products, n.e.s.**	94.4	95.8	95.8	95.5	94.7	94.9	94.4	94.9	94.0	93.0	93.1	92.9	93.3
54	Medicinal and pharmaceutical products	100.2	99.9	100.0	99.7	100.5	100.3	100.2	100.4	100.2	100.1	99.7	100.4	100.2
55	Essential oils; polishing and cleaning preparations	103.0	103.2	103.1	102.8	103.3	103.3	103.4	103.4	103.3	103.2	103.4	103.2	103.4
57	Plastics in primary forms	95.5	97.7	98.4	98.1	97.0	95.4	92.8	92.3	91.2	90.0	90.5	91.5	92.8
58	Plastics in nonprimary forms	100.1	100.2	99.8	99.3	99.4	99.4	99.3	98.9	98.3	98.3	96.6	95.9	96.3
59	Chemical materials and products, n.e.s.	99.6	99.4	99.3	99.1	99.3	99.2	99.2	99.2	99.1	99.9	98.4	98.5	98.5
6	**Manufactured goods classified chiefly by materials**	99.7	99.9	100.1	100.3	100.7	100.9	101.1	100.8	100.5	100.4	101.0	100.6	100.3
62	Rubber manufactures, n.e.s.	103.6	103.7	104.6	104.4	104.8	104.7	104.7	104.6	104.1	103.8	104.4	104.3	104.7
64	Paper, paperboard, and articles of paper, pulp, and paperboard	88.4	89.1	90.5	89.8	90.4	90.3	90.0	89.9	89.6	89.1	88.6	88.4	87.8
66	Nonmetallic mineral manufactures, n.e.s.	106.2	106.4	106.4	106.5	106.3	106.3	106.1	105.8	105.9	105.6	106.2	106.2	105.7
68	Nonferrous metals	101.9	100.3	98.1	100.1	103.0	105.1	105.0	104.9	103.4	104.9	109.1	108.1	106.5
7	**Machinery and transport equipment**	97.3	97.3	97.4	97.3	97.3	97.3	97.4	97.3	97.4	97.4	97.5	97.6	97.8
71	Power generating machinery and equipment	111.8	111.9	112.0	112.0	112.4	112.3	112.4	112.4	113.7	113.7	115.2	115.2	114.6
72	Machinery specialized for particular industries	106.1	106.2	106.2	106.5	106.4	106.5	106.3	106.3	106.5	106.6	106.8	107.1	107.0
74	General industrial machines and parts, n.e.s., and machine parts	108.0	108.2	108.2	108.2	108.3	108.1	108.2	108.3	108.4	108.5	108.6	108.8	109.1
75	Computer equipment and office machines	68.7	68.5	68.5	68.2	68.3	67.8	67.8	67.7	67.8	67.6	67.1	67.1	66.9
76	Telecommunications and sound recording and reproducing apparatus and equipment	96.6	96.4	97.0	96.9	96.7	96.8	96.8	96.6	96.5	96.3	96.5	96.4	96.4
77	Electrical machinery and equipment	86.3	86.4	86.3	85.7	85.7	85.8	85.8	85.4	85.3	85.4	85.2	85.2	85.1
78	Road vehicles	104.0	103.9	103.9	103.9	103.9	103.9	104.1	104.0	103.9	104.0	104.1	104.1	104.1
87	**Professional, scientific, and controlling instruments and apparatus**	105.7	105.7	105.7	105.8	106.4	106.4	106.5	106.9	106.9	106.6	106.9	106.9	106.9

35. U.S. import price indexes by Standard International Trade Classification

[1995 = 100]

SITC Rev. 3	Industry	2000										2001		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
0	**Food and live animals**	93.1	94.0	92.3	91.3	91.5	91.7	91.2	91.5	90.2	92.4	92.8	91.3	91.7
01	Meat and meat preparations	99.1	100.2	100.2	99.1	98.1	98.9	99.0	95.5	95.7	97.3	95.5	96.,1	99.3
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	108.0	111.0	109.6	109.1	110.7	113.5	112.6	110.7	109.3	109.1	107.4	105.6	102.7
05	Vegetables, fruit, and nuts, prepared fresh or dry	101.2	100.7	96.8	95.7	97.2	97.6	97.8	100.9	96.8	104.5	106.3	101.9	103.7
07	Coffee, tea, cocoa, spices, and manufactures thereof	61.0	61.1	59.8	59.5	56.8	55.8	54.5	54.1	51.9	50.8	50.5	51.1	52.0
1	**Beverages and tobacco**	111.7	111.9	112.4	113.0	112.5	112.9	113.6	113.5	113.3	113.2	113.2	113.5	113.4
11	Beverages	108.5	108.7	109.4	110.1	109.4	109.9	110.7	110.6	110.7	110.6	110.5	110.8	119.0
2	**Crude materials, inedible, except fuels**	94.3	93.8	91.9	90.7	90.7	89.6	88.9	89.8	87.7	88.5	87.5	88.9	86.4
24	Cork and wood	118.6	117.6	112.9	110.1	107.0	102.2	99.7	101.6	97.7	101.7	95.6	97.6	97.5
25	Pulp and waste paper	72.4	75.1	77.0	80.1	80.7	81.4	82.0	83.4	83.4	83.4	84.3	82.9	80.6
28	Metalliferous ores and metal scrap	104.0	101.7	99.6	100.7	101.2	102.1	101.6	102.3	100.1	98.8	100.8	100.9	98.1
29	Crude animal and vegetable materials, n.e.s.	111.9	110.1	106.7	92.7	101.8	101.3	103.0	104.3	99.1	97.1	102.0	115.3	97.7
3	**Mineral fuels, lubricants, and related products**	165.4	148.5	154.3	172.0	170.6	172.1	189.0	186.3	188.4	180.2	176.9	170.7	155.4
33	Petroleum, petroleum products, and related materials	166.6	147.1	154.2	171.0	168.5	169.9	187.6	181.8	183.3	163.9	151.7	154.1	145.1
34	Gas, natural and manufactured	170.5	171.5	167.5	195.4	202.9	205.4	218.1	242.6	249.3	331.8	401.2	322.1	253.1
5	**Chemicals and related products, n.e.s.**	92.8	93.4	94.3	94.1	95.5	95.9	95.4	95.1	94.7	95.0	95.8	96.3	96.5
52	Inorganic chemicals	88.8	89.8	90.7	91.5	92.5	92.6	92.5	93.1	93.7	94.2	98.5	98.9	97.7
53	Dying, tanning, and coloring materials	88.4	88.0	87.4	86.1	87.6	88.6	87.9	87.0	86.9	86.9	88.8	89.6	89.1
54	Medicinal and pharmaceutical products	97.3	97.3	97.3	96.8	97.5	97.3	96.7	96.0	95.7	95.7	95.1	94.9	94.6
55	Essential oils; polishing and cleaning preparations	89.7	89.4	89.9	89.6	89.9	89.4	88.8	87.6	87.2	86.9	87.1	88.2	88.6
57	Plastics in primary forms	93.9	93.9	94.0	94.3	95.5	95.4	95.3	96.0	95.9	95.8	95.5	95.5	95.8
58	Plastics in nonprimary forms	80.4	80.3	80.8	80.8	81.5	80.9	80.8	80.0	79.5	78.6	80.3	84.5	84.3
59	Chemical materials and products, n.e.s.	100.6	100.0	100.9	99.7	100.2	100.0	101.1	100.4	100.4	100.6	101.8	101.3	101.3
6	**Manufactured goods classified chiefly by materials**	98.0	97.5	97.1	97.6	98.0	98.8	97.9	97.6	97.2	97.3	98.2	98.8	97.4
62	Rubber manufactures, n.e.s.	92.3	92.4	92.5	91.8	92.1	91.9	91.7	91.6	91.5	91.8	91.8	91.9	91.9
64	Paper, paperboard, and articles of paper, pulp, and paperboard	87.1	88.8	89.6	89.1	89.5	89.4	91.4	91.6	91.9	92.2	92.1	92.6	92.7
66	Nonmetallic mineral manufactures, n.e.s.	100.8	100.9	100.7	100.5	100.9	100.9	100.8	100.2	100.2	100.2	100.7	100.5	100.5
68	Nonferrous metals	115.1	110.3	106.9	110.7	112.5	118.7	114.4	115.7	114.3	114.4	121.0	124.0	116.7
69	Manufactures of metals, n.e.s.	96.1	95.9	95.9	95.7	95.8	95.4	95.4	95.2	94.9	95.0	95.3	95.0	95.1
7	**Machinery and transport equipment**	89.6	89.7	89.8	89.6	89.6	89.5	89.3	89.2	89.1	89.0	88.9	88.8	88.7
72	Machinery specialized for particular industries	97.3	97.1	97.0	96.1	96.7	96.5	95.9	95.7	95.4	95.3	95.9	96.6	96.6
74	General industrial machines and parts, n.e.s., and machine parts	97.0	96.9	96.7	96.2	96.7	96.4	96.1	95.5	95.3	95.4	95.9	95.9	95.5
75	Computer equipment and office machines	61.0	60.5	60.2	60.0	59.9	59.9	59.8	58.8	58.8	58.7	58.3	57.8	57.6
76	Telecommunications and sound recording and reproducing apparatus and equipment	84.9	84.5	84.7	84.6	84.3	84.2	84.1	83.9	83.7	83.6	83.0	82.8	82.6
77	Electrical machinery and equipment	82.2	83.0	83.5	83.3	82.8	82.7	82.6	82.7	82.5	82.2	82.1	81.8	81.8
78	Road vehicles	102.6	102.7	102.7	102.8	102.8	102.7	102.6	102.9	102.9	102.9	102.9	102.8	102.8
85	Footwear	100.7	100.5	100.7	100.3	100.9	101.0	100.9	100.8	100.7	100.6	101.0	101.2	101.2
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	91.8	91.8	91.9	91.6	92.5	92.1	91.4	91.4	91.0	90.7	91.2	91.3	91.0

36. U.S. export price indexes by end-use category

[1995 = 100]

Category	2000										2001		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
ALL COMMODITIES	96.3	96.2	96.4	96.3	96.2	96.0	96.6	96.5	96.5	96.3	96.5	96.3	96.2
Foods, feeds, and beverages	87.1	87.8	88.3	87.1	85.1	82.8	85.3	85.8	86.7	87.4	88.2	86.6	87.2
Agricultural foods, feeds, and beverages	86.2	87.1	87.7	86.2	84.0	81.3	84.3	84.6	85.7	86.7	87.3	85.7	86.4
Nonagricultural (fish, beverages) food products	97.8	97.0	96.6	98.1	97.9	99.7	97.9	99.5	98.2	96.3	98.4	96.8	97.2
Industrial supplies and materials	95.2	94.6	95.2	95.2	95.5	95.4	96.6	96.2	95.8	95.0	95.0	94.8	94.0
Agricultural industrial supplies and materials	77.7	78.2	78.2	78.2	77.9	80.3	81.9	82.3	82.0	82.9	82.4	82.7	80.9
Fuels and lubricants	143.6	127.8	132.9	135.6	141.1	137.9	155.0	146.9	150.7	146.2	145.2	147.1	139.8
Nonagricultural supplies and materials, excluding fuel and building materials	91.0	91.9	92.1	91.9	91.7	91.7	91.4	91.6	90.7	90.1	90.4	89.9	89.8
Selected building materials	90.1	90.4	90.0	89.9	89.6	90.5	89.4	89.8	89.0	89.0	88.8	88.4	87.5
Capital goods	96.0	96.1	96.1	96.1	96.1	96.1	96.2	96.1	96.2	96.3	96.4	96.5	96.6
Electric and electrical generating equipment	98.8	98.7	98.9	99.2	99.1	99.7	99.9	99.5	99.6	99.7	100.0	100.5	100.1
Nonelectrical machinery	91.8	91.9	91.9	91.7	91.6	91.6	91.5	91.5	91.5	91.5	91.4	91.5	91.4
Automotive vehicles, parts, and engines	104.2	104.2	104.2	104.1	104.4	104.4	104.5	104.5	104.4	104.4	104.6	104.6	104.7
Consumer goods, excluding automotive	102.3	102.4	102.4	102.3	102.5	102.4	102.2	102.3	102.2	102.0	102.1	102.0	101.9
Nondurables, manufactured	102.4	102.3	102.4	102.1	102.4	102.4	102.2	102.4	102.2	102.0	102.0	101.5	101.4
Durables, manufactured	101.0	101.3	101.3	101.3	101.5	101.4	101.3	101.2	101.2	101.1	101.3	101.5	101.5
Agricultural commodities	84.4	85.1	85.6	84.4	82.6	80.9	83.5	83.9	84.7	85.7	86.1	84.9	85.1
Nonagricultural commodities	97.6	97.4	97.7	97.6	97.8	97.7	98.0	97.9	97.8	97.5	97.7	97.6	97.5

37. U.S. import price indexes by end-use category

[1995 = 100]

Category	2000										2001		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
ALL COMMODITIES	99.3	97.9	98.3	99.6	99.7	99.9	101.0	100.6	100.6	100.0	100.0	99.4	97.8
Foods, feeds, and beverages	92.5	93.3	91.9	91.1	91.1	91.3	90.7	90.7	89.4	91.0	90.8	89.8	89.6
Agricultural foods, feeds, and beverages	86.6	86.7	85.2	84.1	83.7	83.2	82.5	83.0	81.9	84.2	84.4	83.4	84.1
Nonagricultural (fish, beverages) food products	108.3	110.8	109.8	109.7	110.5	112.9	112.5	111.2	109.5	109.1	107.9	106.5	104.0
Industrial supplies and materials	119.8	114.3	115.9	121.8	121.8	122.8	127.6	126.6	126.9	124.5	124.4	122.6	116.8
Fuels and lubricants	163.7	147.7	153.3	170.6	169.2	170.9	187.4	184.5	186.8	178.7	176.5	170.2	155.2
Petroleum and petroleum products	166.2	147.4	154.0	170.4	168.0	169.5	187.1	181.9	183.6	165.6	155.4	157.1	147.9
Paper and paper base stocks	83.1	85.6	86.8	87.0	87.5	87.6	89.8	90.4	90.6	91.0	91.0	91.2	90.9
Materials associated with nondurable supplies and materials	90.4	91.2	92.1	91.7	92.7	93.4	92.8	92.8	92.6	93.3	94.1	94.2	94.6
Selected building materials	112.1	111.9	109.1	105.0	103.4	100.2	98.7	99.3	97.2	99.1	95.3	96.0	96.2
Unfinished metals associated with durable goods	107.1	104.3	102.0	105.0	106.5	109.5	105.9	105.6	104.1	103.7	107.2	108.7	103.9
Nonmetals associated with durable goods	87.6	87.8	87.8	87.0	87.7	87.6	87.2	87.3	87.1	87.2	88.0	88.5	88.6
Capital goods	81.3	81.4	81.2	80.9	80.9	80.7	80.6	80.2	80.1	80.0	79.9	79.8	79.7
Electric and electrical generating equipment	92.1	93.9	94.2	94.3	94.1	93.7	93.5	93.4	93.1	93.1	93.1	92.9	93.2
Nonelectrical machinery	77.9	77.7	77.5	77.1	77.1	77.0	76.8	76.4	76.3	76.1	76.0	75.9	75.7
Automotive vehicles, parts, and engines	102.2	102.3	102.6	102.7	102.8	102.7	102.5	102.6	102.7	102.7	102.7	102.7	102.7
Consumer goods, excluding automotive	97.1	97.1	97.0	96.5	96.8	96.8	96.6	96.6	96.5	96.4	96.5	96.6	96.6
Nondurables, manufactured	100.3	100.3	100.1	99.5	99.8	100.0	99.8	99.8	99.8	99.6	99.8	99.8	100.1
Durables, manufactured	93.5	93.4	93.4	93.2	93.4	93.2	93.0	92.8	92.8	92.8	92.9	92.7	92.6
Nonmanufactured consumer goods	100.1	100.3	99.7	98.0	99.5	99.2	99.6	99.8	99.1	98.8	99.5	101.5	99.1

38. U.S. international price indexes for selected categories of services

[1995 = 100]

Category	1999				2000			
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Air freight (inbound)	88.0	86.2	87.9	90 7	88.9	88.4	88.5	87.4
Air freight (outbound)	92.7	92.8	92.7	91.7	91.7	92.8	92.6	92.6
Air passenger fares (U.S. carriers)	104.5	112.3	114.2	106.8	107.3	113.3	115.5	111.9
Air passenger fares (foreign carriers)	98.9	106.3	108.6	102.2	102.6	107.9	109.1	103.2
Ocean liner freight (inbound)	102.6	133.7	148.0	139.4	136.3	143.0	142.8	142.8

39. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	Quarterly indexes												
	1997	1998				1999				2000			
	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Business													
Output per hour of all persons	108.7	110.0	110.3	110.8	111.8	112.5	112.7	114.0	116.1	116.6	118.6	119.3	120.2
Compensation per hour	115.6	117.4	118.9	120.3	121.6	123.0	124.3	125.9	127.1	128.2	130.4	132.2	134.6
Real compensation per hour	101.8	103.2	104.1	105.0	105.7	106.4	106.8	107.4	107.6	107.5	108.6	109.1	110.3
Unit labor costs	106.3	106.7	107.8	108.6	108.8	109.3	110.4	110.5	109.5	110.0	110.0	110.8	112.0
Unit nonlabor payments	116.7	116.3	115.1	114.5	114.6	115.1	114.2	114.4	116.9	118.2	120.0	119.5	118.7
Implicit price deflator	110.2	110.3	110.5	110.7	110.9	111.4	111.8	111.9	112.2	113.0	113.7	114.0	114.5
Nonfarm business													
Output per hour of all persons	108.4	109.6	110.1	110.5	111.4	111.9	112.0	113.4	115.6	116.2	118.0	118.8	119.5
Compensation per hour	115.0	116.8	118.3	119.8	120.9	122.1	123.4	125.0	126.3	127.6	129.4	131.4	133.5
Real compensation per hour	101.3	102.6	103.6	104.5	105.1	105.6	106.0	106.6	107.0	107.0	107.8	108.5	109.4
Unit labor costs	106.1	106.5	107.5	108.4	108.6	109.0	110.2	110.2	109.3	109.8	109.7	110.6	111.8
Unit nonlabor payments	117.8	117.4	116.2	115.7	115.8	116.7	115.8	116.1	118.6	120.1	121.8	121.4	120.6
Implicit price deflator	110.4	110.5	110.7	111.0	111.2	111.8	112.2	112.4	112.7	113.6	114.1	114.5	115.0
Nonfinancial corporations													
Output per hour of all employees	109.6	110.6	111.7	113.1	113.7	114.6	115.3	116.6	118.3	119.2	120.8	122.1	–
Compensation per hour	111.9	113.7	115.2	116.7	117.8	119.0	120.3	121.8	123.0	123.9	125.8	127.7	–
Real compensation per hour	98.5	99.9	100.9	101.8	102.4	103.0	103.3	103.9	104.2	103.9	104.8	105.4	–
Total unit costs	101.7	102.3	102.6	102.5	103.2	103.2	103.7	104.0	103.9	104.0	104.3	104.8	–
Unit labor costs	102.1	102.8	103.1	103.2	103.6	103.9	104.3	104.5	104.0	104.0	104.2	104.5	–
Unit nonlabor costs	100.6	100.7	101.2	100.7	102.1	101.3	102.2	102.9	103.4	104.2	104.9	105.5	–
Unit profits	156.8	150.8	147.7	152.0	145.3	150.6	148.6	144.4	147.0	152.2	156.3	153.0	–
Unit nonlabor payments	114.9	113.5	113.0	113.8	113.1	113.9	114.0	113.5	114.5	116.4	118.0	117.6	–
Implicit price deflator	106.3	106.4	106.4	106.7	106.8	107.2	107.5	107.5	107.5	108.1	108.8	108.9	–
Manufacturing													
Output per hour of all persons	119.8	121.7	123.2	125.7	126.8	128.9	130.2	131.9	135.0	137.7	139.8	142.1	144.0
Compensation per hour	113.4	115.4	116.8	118.0	119.0	119.9	121.2	122.8	124.1	125.7	127.0	129.1	131.8
Real compensation per hour	99.8	101.4	102.2	103.0	103.4	103.7	104.1	104.7	105.2	105.4	105.7	106.6	108.0
Unit labor costs	94.7	94.9	94.8	93.9	93.9	93.0	93.1	93.1	91.9	91.2	90.8	90.9	91.5

NOTE: Dash indicates data not available.

40. Annual indexes of multifactor productivity and related measures, selected years

[1996 = 100, unless otherwise indicated]

Item	1960	1970	1980	1990	1991	1992	1993	1994	1995	1996	1997	1998
Private business												
Productivity:												
Output per hour of all persons	45.6	63.0	75.8	90.2	91.3	94.8	95.4	96.6	97.3	100.0	102.0	104.8
Output per unit of capital services	110.4	111.1	101.5	99.3	96.1	97.7	98.5	100.3	99.7	100.0	100.5	100.1
Multifactor productivity	65.2	80.0	88.3	95.3	94.4	96.6	97.1	98.1	98.4	100.0	101.1	102.6
Output	27.5	42.0	59.4	83.6	82.6	85.7	88.5	92.8	95.8	100.0	105.2	110.6
Inputs:												
Labor input	54.0	61.0	71.9	89.4	88.3	89.3	91.8	95.6	98.0	100.0	103.7	106.4
Capital services	24.9	37.8	58.6	84.2	86.0	87.7	89.8	92.6	96.0	100.0	104.7	110.4
Combined units of labor and capital input	42.3	52.4	67.3	87.7	87.5	88.8	91.1	94.6	97.3	100.0	104.0	107.7
Capital per hour of all persons	41.3	56.7	74.7	90.8	95.0	97.0	96.8	96.3	97.6	100.0	101.5	104.7
Private nonfarm business												
Productivity:												
Output per hour of all persons	48.7	64.9	77.3	90.3	91.4	94.8	95.3	96.5	97.5	100.0	101.7	104.5
Output per unit of capital services	120.1	118.3	105.7	100.0	96.6	97.9	98.8	100.3	99.9	100.0	100.2	99.8
Multifactor productivity	69.1	82.6	90.5	95.6	94.7	96.6	97.1	98.1	98.6	100.0	100.9	102.4
Output	27.2	41.9	59.6	83.5	82.5	85.5	88.4	92.6	95.8	100.0	105.1	110.6
Inputs:												
Labor input	50.1	59.3	70.7	89.2	88.0	89.0	91.8	95.4	97.8	100.0	103.8	106.6
Capital services	22.6	35.5	56.4	83.5	85.4	87.3	89.5	92.3	95.9	100.0	104.9	110.8
Combined units of labor and capital input	39.3	50.7	65.9	87.3	87.1	88.4	91.0	94.4	97.2	100.0	104.2	108.0
Capital per hour of all persons	40.5	54.8	73.1	90.3	94.7	96.8	96.5	96.3	97.6	100.0	101.5	104.7
Manufacturing (1992 = 100)												
Productivity:												
Output per hour of all persons	41.8	54.2	70.1	92.8	95.0	100.0	101.9	105.0	109.0	112.8	117.1	124.3
Output per unit of capital services	124.3	116.5	100.9	101.6	97.5	100.0	101.1	104.0	105.0	104.5	105.6	106.5
Multifactor productivity	72.7	84.4	86.6	99.3	98.3	100.0	100.4	102.6	105.0	106.1	109.8	113.2
Output	38.5	56.5	75.3	97.3	95.4	100.0	103.3	108.7	113.4	116.9	123.5	130.7
Inputs:												
Hours of all persons	92.0	104.2	107.5	104.8	100.4	100.0	101.4	103.6	104.0	103.7	105.5	105.2
Capital services	30.9	48.5	74.7	95.8	97.9	100.0	102.2	104.5	108.0	111.9	116.9	122.8
Energy	51.3	85.4	92.5	99.9	100.1	100.0	103.7	107.3	109.5	107.0	103.9	109.2
Nonenergy materials	38.2	44.8	75.0	92.5	93.6	100.0	105.7	111.3	112.8	120.4	120.4	127.2
Purchased business services	28.2	48.8	73.7	92.5	92.1	100.0	103.0	105.1	110.0	108.9	114.2	116.8
Combined units of all factor inputs	52.9	67.0	87.0	98.0	97.0	100.0	102.9	106.0	107.9	110.2	112.5	115.5

41. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1980	1990	1991	1993	1994	1995	1996	1997	1998	1999	2000
Business													
Output per hour of all persons	48.8	67.0	80.4	95.2	96.3	100.5	101.9	102.6	105.4	107.8	110.8	113.8	118.6
Compensation per hour	13.7	23.5	54.2	90.7	95.0	102.5	104.5	106.7	110.1	113.5	119.6	125.1	131.4
Real compensation per hour	60.0	78.9	89.4	96.5	97.5	99.9	99.7	99.3	99.7	100.6	104.6	107.1	109.0
Unit labor costs	28.0	35.1	67.4	95.3	98.7	101.9	102.6	104.1	104.5	105.3	108.0	109.9	110.7
Unit nonlabor payments	25.2	31.6	61.5	93.9	97.0	102.5	106.4	109.4	113.3	117.1	115.1	115.1	119.1
Implicit price deflator	27.0	33.9	65.2	94.8	98.1	102.2	104.0	106.0	107.7	109.7	110.6	111.8	113.8
Nonfarm business													
Output per hour of all persons	51.9	68.9	82.0	95.3	96.4	100.5	101.8	102.8	105.4	107.5	110.4	113.2	118.1
Compensation per hour	14.3	23.7	54.6	90.5	95.0	102.2	104.3	106.6	109.8	113.1	119.0	124.2	130.5
Real compensation per hour	62.8	79.5	90.0	96.3	97.5	99.6	99.5	99.2	99.4	100.2	104.0	106.4	108.2
Unit labor costs	27.5	34.4	66.5	95.0	98.5	101.7	102.5	103.7	104.2	105.2	107.7	109.7	110.5
Unit nonlabor payments	24.6	31.3	60.5	93.6	97.1	103.0	106.9	110.4	113.5	118.0	116.3	116.8	121.0
Implicit price deflator	26.5	33.3	64.3	94.5	98.0	102.2	104.1	106.1	107.6	109.8	110.8	112.3	114.3
Nonfinancial corporations													
Output per hour of all employees	55.4	70.4	81.1	95.4	97.7	100.7	103.1	104.2	107.5	108.4	112.3	116.2	–
Compensation per hour	15.6	25.3	56.4	90.8	95.3	102.0	104.2	106.2	109.0	110.3	115.9	121.1	–
Real compensation per hour	68.3	84.7	93.1	96.7	97.8	99.5	99.4	98.8	98.7	97.8	101.3	103.7	–
Total unit costs	26.8	34.8	68.4	95.9	98.8	101.0	101.1	102.0	101.2	101.5	102.6	103.7	–
Unit labor costs	28.1	35.9	69.6	95.2	97.5	101.3	101.0	101.9	101.4	101.8	103.2	104.2	–
Unit nonlabor costs	23.3	31.9	65.1	98.0	102.1	100.2	101.3	102.2	100.6	100.9	101.2	102.5	–
Unit profits	50.2	44.4	68.8	94.3	93.0	113.2	131.7	139.0	152.2	156.9	148.9	147.6	–
Unit nonlabor payments	30.2	35.1	66.0	97.1	99.7	103.5	109.0	111.6	113.8	115.2	113.4	114.0	–
Implicit price deflator	28.8	35.6	68.4	95.8	98.3	102.1	103.7	105.1	105.5	106.2	106.6	107.4	–
Manufacturing													
Output per hour of all persons	41.8	54.2	70.1	92.8	95.0	101.9	105.0	109.0	112.8	117.1	124.3	131.5	140.9
Compensation per hour	14.9	23.7	55.6	90.8	95.6	102.7	105.6	107.9	109.3	111.4	117.3	122.0	128.4
Real compensation per hour	65.2	79.5	91.7	96.6	98.1	100.2	100.8	100.4	99.0	98.8	102.6	104.5	106.5
Unit labor costs	35.6	43.8	79.3	97.8	100.6	100.8	100.7	99.0	96.9	95.1	94.4	92.8	91.1
Unit nonlabor payments	26.8	29.3	80.2	99.7	99.0	100.9	102.8	106.9	109.9	109.6	104.4	–	–
Implicit price deflator	30.2	34.9	79.8	99.0	99.6	100.9	102.0	103.9	104.9	104.0	100.5	–	–

Dash indicates data not available.

42. Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Mining												
Gold and silver ores	104	101.5	113.3	122.3	127.4	141.6	159.8	160.8	144.2	138.3	159.0	186.3
Bituminous coal and lignite mining	122	111.7	117.3	118.7	122.4	133.0	141.2	148.1	155.9	168.0	176.6	187.3
Crude petroleum and natural gas	131	101.0	98.0	97.0	97.9	102.1	105.9	112.4	119.4	123.9	125.2	128.7
Crushed and broken stone	142	101.3	98.7	102.2	99.8	105.0	103.6	108.7	105.4	107.2	114.0	111.9
Manufacturing												
Meat products	201	100.1	99.2	97.1	99.6	104.6	104.3	101.2	102.3	97.4	103.2	102.8
Dairy products	202	108.4	107.7	107.3	108.3	111.4	109.6	111.8	116.4	116.0	119.5	119.7
Preserved fruits and vegetables	203	97.0	97.8	95.6	99.2	100.5	106.8	107.6	109.1	109.1	111.7	116.5
Grain mill products	204	101.3	107.6	105.4	104.9	107.8	109.2	108.4	115.4	108.0	118.7	128.7
Bakery products	205	96.8	96.1	92.7	90.6	93.8	94.4	96.4	97.3	95.6	99.3	102.1
Sugar and confectionery products	206	99.5	101.8	103.2	102.0	99.8	104.5	106.2	108.3	113.8	117.1	123.2
Fats and oils	207	108.9	116.4	118.1	120.1	114.1	112.6	111.8	120.3	110.1	120.0	138.3
Beverages	208	105.6	112.2	117.0	120.0	127.1	126.4	130.1	133.5	135.0	135.5	137.4
Miscellaneous food and kindred products	209	107.0	99.1	99.2	101.7	101.5	105.2	100.9	102.9	109.1	103.9	113.2
Cigarettes	211	101.2	109.0	113.2	107.6	111.6	106.5	126.6	142.9	147.2	147.2	152.2
Broadwoven fabric mills, cotton	221	99.6	99.8	103.1	111.2	110.3	117.8	122.1	134.0	137.3	130.9	135.1
Broadwoven fabric mills, manmade	222	99.2	106.3	111.3	116.2	126.2	131.7	142.5	145.3	147.6	161.9	167.3
Narrow fabric mills	224	108.4	92.7	96.5	99.6	112.9	111.4	120.1	118.9	126.3	107.7	114.1
Knitting mills	225	96.6	108.0	107.5	114.0	119.3	127.9	134.1	138.3	150.3	149.9	149.9
Textile finishing, except wool	226	90.3	88.7	83.4	79.9	78.6	79.3	81.2	78.5	79.2	94.0	100.5
Carpets and rugs	227	98.6	97.8	93.2	89.2	96.1	97.1	93.3	95.8	100.2	100.3	103.0
Yarn and thread mills	228	102.1	104.2	110.2	111.4	119.6	126.6	130.7	137.4	147.4	150.1	154.2
Miscellaneous textile goods	229	101.6	109.1	109.2	104.6	106.5	110.4	118.5	123.7	123.1	117.9	120.3
Men's and boys' furnishings	232	100.1	100.1	102.1	108.4	109.1	108.4	111.7	123.4	134.7	152.4	166.9
Women's and misses' outerwear	233	101.4	96.8	104.1	104.3	109.4	121.8	127.4	135.5	141.6	151.5	153.1
Women's and children's undergarments	234	105.4	94.6	102.1	113.6	117.4	124.5	138.0	161.3	174.5	196.3	215.2
Hats, caps, and millinery	235	99.0	96.4	89.2	91.1	93.6	87.2	77.7	84.3	82.2	83.5	99.4
Miscellaneous apparel and accessories	238	101.3	88.4	90.6	91.8	91.3	94.0	105.5	116.8	120.1	105.2	109.8
Miscellaneous fabricated textile products	239	96.6	95.7	99.9	100.7	107.5	108.5	107.8	109.2	105.6	117.0	118.0
Sawmills and planing mills	242	100.7	99.6	99.8	102.6	108.1	101.9	103.3	110.2	115.6	117.5	120.4
Millwork, plywood, and structural members	243	98.8	97.1	98.0	98.0	99.9	97.0	94.5	92.7	92.4	89.9	92.5
Wood containers	244	103.1	108.8	111.2	113.1	109.4	100.1	100.9	106.1	106.7	106.6	107.0
Wood buildings and mobile homes	245	97.8	98.8	103.1	103.0	103.1	103.8	98.3	97.0	96.7	101.1	99.7
Miscellaneous wood products	249	95.9	102.4	107.7	110.5	114.2	115.3	111.8	115.4	114.4	123.1	132.3
Household furniture	251	99.4	102.0	104.5	107.1	110.5	110.6	112.5	116.9	121.6	121.8	127.5
Office furniture	252	94.3	97.5	95.0	94.1	102.5	103.2	100.5	101.1	106.4	117.9	113.8
Public building and related furniture	253	109.6	113.7	119.8	120.2	140.6	161.0	157.4	173.3	181.5	186.5	205.3
Partitions and fixtures	254	95.7	92.4	95.6	93.0	102.7	107.4	98.9	101.2	97.5	121.4	127.7
Miscellaneous furniture and fixtures	259	103.6	101.9	103.5	102.1	99.5	103.6	104.7	110.0	113.2	102.2	123.1
Pulp mills	261	99.6	107.4	116.7	128.3	137.3	122.5	128.9	131.9	132.6	104.4	108.9
Paper mills	262	103.9	103.6	102.3	99.2	103.3	102.4	110.2	118.6	111.6	107.0	110.8
Paperboard mills	263	105.5	101.9	100.6	101.4	104.4	108.4	114.9	119.5	118.0	124.2	127.6
Paperboard containers and boxes	265	99.7	101.5	101.3	103.4	105.2	107.9	108.4	105.1	106.3	110.1	114.4
Miscellaneous converted paper products	267	101.1	101.6	101.4	105.3	105.5	107.9	110.6	113.3	113.6	121.7	124.8
Newspapers	271	96.9	95.2	90.6	85.8	81.5	79.4	79.9	79.0	77.4	79.0	83.0
Periodicals	272	97.9	98.3	93.9	89.5	92.9	89.5	81.9	87.8	89.1	100.1	97.6
Books	273	99.1	94.1	96.6	100.8	97.7	103.5	103.0	101.6	99.3	102.2	97.1
Miscellaneous publishing	274	96.7	89.0	92.2	95.9	105.8	104.5	97.5	94.8	93.6	114.5	114.2
Commercial printing	275	100.0	101.1	102.5	102.0	108.0	106.9	106.5	107.2	108.3	109.2	110.7
Manifold business forms	276	98.7	89.7	93.0	89.1	94.5	91.1	82.0	76.9	75.2	78.9	76.4
Greeting cards	277	100.1	109.1	100.6	92.7	96.7	91.4	89.0	92.5	90.8	92.2	104.5
Blankbooks and bookbinding	278	95.6	94.2	99.4	96.1	103.6	98.7	105.4	108.7	114.5	115.3	124.7
Printing trade services	279	99.9	94.3	99.3	100.6	112.0	115.3	111.0	116.7	126.2	124.2	127.6
Industrial inorganic chemicals	281	105.7	104.3	106.8	109.7	109.7	105.6	102.3	109.3	110.1	116.1	145.7
Plastics materials and synthetics	282	98.8	99.7	100.9	100.0	107.5	112.0	125.3	128.3	125.3	133.8	142.6
Drugs	283	101.0	102.8	103.8	104.5	99.5	99.9	104.9	108.7	112.1	112.6	105.3
Soaps, cleaners, and toilet goods	284	102.0	100.6	103.8	105.3	104.4	108.7	111.2	118.6	120.9	130.4	129.2
Paints and allied products	285	101.4	103.3	106.3	104.3	102.9	108.8	116.7	118.0	125.6	127.2	128.8
Industrial organic chemicals	286	109.9	110.4	101.4	95.8	94.6	92.2	99.9	98.6	99.0	112.9	111.3
Agricultural chemicals	287	103.7	104.3	104.7	99.5	99.5	103.8	105.0	108.5	110.0	120.4	117.0

See footnotes at end of table.

42. Continued--Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Miscellaneous chemical products	289	95.4	95.2	97.3	96.1	101.8	107.1	105.7	107.8	110.1	120.2	120.9
Petroleum refining	291	105.3	109.6	109.2	106.6	111.3	120.1	123.8	132.3	142.0	149.2	155.8
Asphalt paving and roofing materials	295	98.3	95.3	98.0	94.1	100.4	108.0	104.9	111.2	113.1	120.8	129.5
Miscellaneous petroleum and coal products	299	98.4	101.9	94.8	90.6	101.5	104.2	96.3	87.4	87.1	97.2	100.7
Tires and inner tubes	301	102.9	103.8	103.0	102.4	107.8	116.5	124.1	131.1	138.8	148.5	145.2
Hose and belting and gaskets and packing	305	103.7	96.3	96.1	92.4	97.8	99.7	102.7	104.6	107.4	112.4	111.7
Fabricated rubber products, n.e.c.	306	104.2	105.5	109.0	109.9	115.2	123.1	119.1	121.5	121.0	125.5	133.2
Miscellaneous plastics products, n.e.c.	308	100.5	101.8	105.7	108.3	114.4	116.7	120.8	121.0	124.7	130.2	134.6
Footwear, except rubber	314	101.3	101.1	101.1	94.4	104.2	105.2	113.0	117.1	126.1	129.4	111.6
Flat glass	321	91.9	90.7	84.5	83.6	92.7	97.7	97.6	99.6	101.5	107.6	114.0
Glass and glassware, pressed or blown	322	100.6	100.2	104.8	102.3	108.9	108.7	112.9	115.7	121.4	128.2	135.1
Products of purchased glass	323	95.9	90.1	92.6	97.7	101.5	106.2	105.9	106.1	122.0	125.3	120.0
Cement, hydraulic	324	103.2	110.2	112.4	108.3	115.1	119.9	125.6	124.3	128.7	133.1	134.1
Structural clay products	325	98.8	103.1	109.6	109.8	111.4	106.8	114.0	112.6	119.6	116.1	115.4
Pottery and related products	326	99.6	97.1	98.6	95.8	99.5	100.3	108.4	109.3	119.3	116.1	127.6
Concrete, gypsum, and plaster products	327	100.8	102.4	102.3	101.2	102.5	104.6	101.5	104.5	107.3	109.2	113.4
Miscellaneous nonmetallic mineral products	329	103.0	95.5	95.4	94.0	104.3	104.5	106.3	107.8	110.4	112.7	117.1
Blast furnace and basic steel products	331	112.6	108.1	109.7	107.8	117.0	133.6	142.4	142.6	147.5	155.0	152.3
Iron and steel foundries	332	104.0	105.4	106.1	104.5	107.2	112.1	113.0	112.7	116.2	121.7	121.7
Primary nonferrous metals	333	107.8	106.1	102.3	110.7	101.9	107.9	105.3	111.0	110.8	116.0	125.0
Nonferrous rolling and drawing	335	95.5	93.6	92.7	91.0	96.0	98.3	101.2	99.2	104.0	112.3	115.0
Nonferrous foundries (castings)	336	102.6	105.1	104.0	103.6	103.6	108.5	112.1	117.8	122.3	126.4	131.1
Miscellaneous primary metal products	339	106.6	105.0	113.7	109.1	114.5	111.3	134.5	152.2	149.6	140.9	139.7
Metal cans and shipping containers	341	106.5	108.5	117.6	122.9	127.8	132.3	140.9	144.2	155.2	160.8	155.8
Cutlery, handtools, and hardware	342	97.8	101.7	97.3	96.8	100.1	104.0	109.2	111.3	118.2	113.1	115.2
Plumbing and heating, except electric	343	103.7	101.5	102.6	102.0	98.4	102.0	109.1	109.2	118.6	127.2	131.3
Fabricated structural metal products	344	100.4	96.9	98.8	100.0	103.9	104.8	107.7	105.8	106.5	110.0	112.5
Metal forgings and stampings	346	101.5	99.8	95.6	92.9	103.7	108.7	108.5	109.3	113.6	120.2	125.9
Metal services, n.e.c.	347	108.3	102.4	104.7	99.4	111.6	120.6	123.0	127.7	128.4	123.5	128.5
Ordnance and accessories, n.e.c.	348	97.7	89.8	82.1	81.5	88.6	84.6	83.6	87.6	87.5	100.5	94.6
Miscellaneous fabricated metal products	349	101.4	95.9	97.5	97.4	101.1	102.0	103.2	106.6	108.3	106.2	112.4
Engines and turbines	351	106.8	110.7	106.5	105.8	103.3	109.2	122.3	122.7	136.6	134.2	142.8
Farm and garden machinery	352	106.3	110.7	116.5	112.9	113.9	118.6	125.0	134.7	137.2	141.0	148.7
Construction and related machinery	353	106.5	108.3	107.0	99.1	102.0	108.2	117.7	122.1	123.3	131.8	137.1
Metalworking machinery	354	101.0	103.5	101.1	96.4	104.3	107.4	109.9	114.8	114.9	118.6	120.2
Special industry machinery	355	104.6	108.3	107.5	108.3	106.0	113.6	121.2	132.3	134.0	130.1	125.9
General industrial machinery	356	105.9	101.5	101.5	101.6	101.6	104.8	106.7	109.0	109.4	110.1	112.4
Computer and office equipment	357	121.4	124.2	138.1	149.6	195.7	258.6	328.6	469.4	681.3	937.0	1345.8
Refrigeration and service machinery	358	102.1	106.0	103.6	100.7	104.9	108.6	110.7	112.7	114.7	114.8	121.3
Industrial machinery, n.e.c.	359	106.5	107.1	107.3	109.0	117.0	118.5	127.4	138.8	141.4	129.7	127.6
Electric distribution equipment	361	105.4	105.0	106.3	106.5	119.6	122.2	131.8	143.0	143.9	143.9	147.8
Electrical industrial apparatus	362	104.6	107.4	107.7	107.1	117.1	132.9	134.9	150.8	154.3	163.9	162.6
Household appliances	363	103.0	104.7	105.8	106.5	115.0	123.4	131.4	127.3	127.4	138.1	151.7
Electric lighting and wiring equipment	364	101.9	100.2	99.9	97.5	105.7	107.8	113.4	113.7	116.9	121.4	129.3
Communications equipment	366	110.5	107.2	121.4	124.5	146.7	150.3	166.0	170.9	190.3	221.0	228.4
Electronic components and accessories	367	109.0	119.8	133.4	154.7	189.3	217.9	274.1	401.5	514.9	610.5	764.4
Miscellaneous electrical equipment & supplies	369	102.8	99.6	90.6	98.6	101.3	108.2	110.5	114.1	123.1	124.6	130.5
Motor vehicles and equipment	371	103.2	103.3	102.4	96.6	104.2	106.2	108.8	106.7	107.2	116.5	125.7
Aircraft and parts	372	100.6	98.2	98.9	108.2	112.3	115.2	109.6	107.9	113.0	114.1	140.4
Ship and boat building and repairing	373	99.4	97.6	103.7	96.3	102.7	106.2	103.8	98.0	99.2	104.3	101.6
Railroad equipment	374	113.5	135.3	141.1	146.9	147.9	151.0	152.5	150.0	148.3	183.2	191.7
Motorcycles, bicycles, and parts	375	92.6	94.6	93.8	99.8	108.4	130.9	125.1	120.3	125.5	120.6	127.8
Guided missiles, space vehicles, parts	376	104.1	110.6	116.5	110.5	110.5	122.1	118.9	121.0	129.4	126.6	132.1
Search and navigation equipment	381	104.8	105.8	112.7	118.9	122.1	129.1	132.1	149.5	142.2	148.9	148.8
Measuring and controlling devices	382	103.7	101.7	106.4	113.1	119.9	124.0	133.8	146.4	150.5	143.0	147.3
Medical instruments and supplies	384	105.2	107.9	116.9	118.7	123.5	127.3	126.7	131.5	139.8	146.3	159.4
Ophthalmic goods	385	112.6	123.3	121.2	125.1	144.5	157.8	160.6	167.2	188.2	202.6	211.7
Photographic equipment & supplies	386	105.6	113.0	107.8	110.2	116.4	126.9	132.7	129.5	128.7	121.6	125.9
Jewelry, silverware, and plated ware	391	100.1	102.9	99.3	95.8	96.7	96.7	99.5	100.2	102.6	117.2	111.7
Musical instruments	393	101.8	96.1	97.1	96.9	96.0	95.6	88.7	86.9	78.8	83.9	83.5

See footnotes at end of table.

42. Continued--Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Toys and sporting goods	394	104.8	106.0	108.1	109.7	104.9	114.2	109.7	113.6	119.9	125.1	134.8
Pens, pencils, office, and art supplies	395	108.3	112.9	118.2	116.8	111.3	111.6	129.9	135.2	144.1	127.9	147.6
Costume jewelry and notions	396	102.0	93.8	105.3	106.7	110.8	115.8	129.0	143.7	142.2	116.1	122.9
Miscellaneous manufactures	399	102.1	100.9	106.5	109.2	109.5	107.7	106.1	108.1	112.8	109.3	109.5
Transportation												
Railroad transportation	4011	108.4	114.6	118.5	127.8	139.6	145.4	150.3	156.2	167.0	170.1	–
Trucking, except local [1]	4213	105.2	109.3	111.1	116.9	123.4	126.6	129.5	125.4	130.9	132.4	130.1
U.S. postal service [2]	431	99.9	99.7	104.0	103.7	104.5	107.1	106.6	106.5	104.7	108.3	109.5
Air transportation [1]	4512,13,22 (pts.)	99.5	95.8	92.9	92.5	96.9	100.2	105.7	108.6	111.1	111.6	108.5
Utitlities												
Telephone communications	481	106.2	111.6	113.3	119.8	127.7	135.5	142.2	148.1	159.5	160.9	171.2
Radio and television broadcasting	483	103.1	106.2	104.9	106.1	108.3	106.7	110.1	109.6	105.8	101.1	100.8
Cable and other pay TV services	484	102.0	99.7	92.5	87.5	88.3	86.7	85.6	86.7	84.4	87.6	88.0
Electric utilities	491,3 (pt.)	104.9	107.7	110.1	113.4	115.2	120.6	126.8	135.0	146.5	150.5	157.2
Gas utilities	492,3 (pt.)	108.3	111.2	105.8	109.6	111.1	121.8	125.6	137.1	145.9	158.6	153.4
Trade												
Lumber and other building materials dealers	521	101.0	99.1	103.6	101.3	105.4	110.5	118.3	117.6	121.7	122.2	133.0
Paint, glass, and wallpaper stores	523	102.8	101.7	106.0	99.4	106.5	114.7	130.2	135.3	140.2	143.8	166.0
Hardware stores	525	108.6	115.2	110.5	102.5	107.2	105.8	112.7	108.5	112.1	111.2	125.3
Retail nurseries, lawn and garden supply stores	526	106.7	103.4	83.9	88.5	100.4	106.6	116.6	117.2	136.6	128.1	136.1
Department stores	531	99.2	97.0	94.2	98.2	100.9	105.7	108.6	110.9	118.4	123.5	129.4
Variety stores	533	101.9	124.4	151.2	154.2	167.7	184.7	190.1	203.2	229.2	247.6	262.5
Miscellaneous general merchandise stores	539	100.8	109.8	116.4	121.8	136.1	159.7	160.9	163.9	164.9	168.2	189.9
Grocery stores	541	98.9	95.4	94.6	93.7	93.3	92.8	92.5	91.2	89.4	89.2	90.2
Meat and fish (seafood) markets	542	99.0	97.6	96.8	88.4	95.8	93.7	91.1	89.1	81.1	84.7	89.9
Retail bakeries	546	89.8	83.3	89.7	94.7	94.0	86.5	87.2	86.8	81.7	75.4	65.0
New and used car dealers	551	103.4	102.5	106.1	104.1	106.5	107.6	108.7	107.1	108.2	107.8	108.0
Auto and home supply stores	553	103.2	101.6	102.7	99.0	100.0	98.7	102.6	105.7	104.6	104.2	107.0
Gasoline service stations	554	103.0	105.2	102.6	104.3	109.7	115.2	120.4	126.3	125.1	125.0	130.6
Men's and boy's wear stores	561	106.0	109.6	113.7	119.2	118.2	115.5	117.9	117.5	125.7	132.2	145.5
Women's clothing stores	562	97.8	99.5	101.5	103.0	112.2	118.4	119.3	128.5	142.3	145.8	154.8
Family clothing stores	565	102.0	104.9	104.5	106.4	111.7	114.5	120.4	133.8	138.8	142.1	145.6
Shoe stores	566	102.7	107.2	106.1	105.1	111.5	113.2	126.3	134.5	146.9	143.5	136.4
Furniture and homefurnishings stores	571	98.6	100.9	101.8	101.5	108.4	107.6	108.8	112.0	118.6	119.4	121.6
Household appliance stores	572	98.5	103.5	102.8	105.2	113.9	117.0	121.2	138.7	141.8	155.5	184.5
Radio, television, computer, and music stores	573	118.6	114.6	119.6	128.3	137.8	152.7	177.0	196.7	204.6	215.1	258.9
Eating and drinking places	581	102.8	102.2	104.0	103.1	102.5	102.8	101.1	100.9	99.5	100.5	101.1
Drug and proprietary stores	591	101.9	102.5	103.6	104.7	103.6	105.4	105.7	106.9	109.6	115.4	117.7
Liquor stores	592	98.2	101.1	105.2	105.9	108.4	100.7	99.1	103.7	112.8	108.9	113.9
Used merchandise stores	593	105.3	104.9	100.3	98.6	110.4	112.1	115.4	117.3	129.8	138.0	158.4
Miscellaneous shopping goods stores	594	100.7	104.2	104.2	105.0	102.7	106.5	111.9	117.8	120.0	123.7	131.5
Nonstore retailers	596	105.6	110.8	108.8	109.3	122.1	127.5	143.3	146.1	165.5	177.2	193.5
Fuel dealers	598	95.6	92.0	84.4	85.3	84.4	92.7	100.7	114.2	115.8	113.4	112.0
Retail stores, n.e.c.	599	105.9	103.1	113.7	103.2	111.6	117.3	125.0	126.2	139.5	147.3	157.6
Finance and Services												
Commercial banks	602	102.8	104.8	107.7	110.1	111.0	118.5	121.7	126.4	129.7	133.0	133.0
Hotels and motels	701	97.6	95.0	96.1	99.1	107.8	106.2	109.6	110.1	109.7	107.9	108.8
Laundry, cleaning, and garment services	721	97.2	99.7	101.8	99.2	98.3	98.9	104.0	105.5	108.7	108.0	113.5
Photographic studios, portrait	722	100.1	94.9	96.6	92.8	97.7	105.9	117.4	129.3	126.6	133.7	153.4
Beauty shops	723	95.1	99.6	96.8	94.8	99.6	95.7	99.8	103.5	106.3	107.5	108.4
Barber shops	724	108.8	111.6	100.2	94.1	112.1	120.8	117.7	114.6	127.6	149.0	153.0
Funeral services and crematories	726	102.5	97.9	90.9	89.5	103.2	98.2	103.8	99.7	97.1	101.3	107.0
Automotive repair shops	753	105.7	108.1	106.9	98.7	103.3	104.0	112.3	119.5	114.1	115.2	121.2
Motion picture theaters	783	107.1	114.3	115.8	116.0	110.8	109.8	106.5	101.4	100.5	99.8	101.3

[1] Refers to output per employee.
[2] Refers to ouput per full-time equivalent employee year on fiscal basis.

n.e.c. = not elsewhere classified
Dash indicates data not available.

43. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		1999				2000			
	1999	2000	I	II	III	IV	I	II	III	IV
United States	4.2	4.0	4.3	4.3	4.2	4.1	4.1	4.0	4.0	4.0
Canada	6.8	5.8	7.1	7.1	6.8	6.2	6.0	5.8	5.8	5.7
Australia	7.2	6.6	7.5	7.4	7.1	7.0	6.8	6.7	6.3	6.5
Japan[1]	4.7	4.8	4.7	4.8	4.8	4.7	4.8	4.7	4.7	4.8
France[1]	11.2	9.7	11.4	11.3	11.2	10.8	10.2	9.7	9.6	9.2
Germany[1]	8.7	8.3	8.8	8.8	8.8	8.7	8.4	8.3	8.2	8.1
Italy[1,2]	11.5	10.7	11.8	11.7	11.5	11.2	11.3	10.8	10.6	10.1
Sweden[1]	7.1	5.9	7.1	7.0	7.1	7.1	6.7	6.0	5.6	5.2
United Kingdom[1]	6.1	–	6.2	6.1	5.9	5.9	5.8	5.5	5.4	–

[1] Preliminary for 2000 for Japan, France, Germany (unified), Italy, and Sweden and for 1999 onward for the United Kingdom.

[2] Quarterly rates are for the first month of the quarter.

NOTE: Quarterly figures for France and Germany are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series. For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries, 1959–2000* (Bureau of Labor Statistics, Mar. 16, 2001).

Dash indicates data not available.

44. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Civilian labor force										
United States[1]	126,346	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	140,863
Canada	14,128	14,168	14,299	14,387	14,500	14,650	14,936	15,216	15,513	15,745
Australia	8,490	8,562	8,619	8,776	9,001	9,127	9,221	9,347	9,470	9,682
Japan	64,280	65,040	65,470	65,780	65,990	66,450	67,200	67,240	67,090	66,990[p]
France	24,470	24,570	24,640	24,780	24,830	25,090	25,210	25,540	25,860	–
Germany[2]	39,130	39,040	39,140	39,210	39,100	39,180	39,480	39,520	39,630	–
Italy	22,940	22,910	22,570	22,450	22,460	22,570	22,680	22,960	23,130	–
Netherlands	6,780	6,940	7,050	7,200	7,230	7,440	7,510	7,670	7,750	–
Sweden	4,591	4,520	4,443	4,418	4,460	4,459	4,418	4,402	4,430	–
United Kingdom	28,610	28,410	28,310	28,280	28,480	28,620	28,760	28,870	29,090[p]	–
Participation rate[3]										
United States[1]	66.2	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.2
Canada	66.7	65.9	65.5	65.2	64.9	64.7	65.0	65.4	65.8	65.9
Australia	64.1	63.9	63.6	63.9	64.6	64.6	64.3	64.4	64.2	64.7
Japan	63.2	63.4	63.3	63.1	62.9	63.0	63.2	62.8	62.4	62.0[p]
France	55.9	55.8	55.6	55.5	55.3	55.5	55.3	55.7	56.0	–
Germany[2]	58.9	58.3	58.0	57.6	57.3	57.4	57.7	57.7	57.9[p]	–
Italy	47.7	47.5	47.9	47.3	47.1	47.1	47.2	47.6	47.8	–
Netherlands	56.8	57.7	58.2	59.0	58.9	60.3	60.6	61.4	61.5	–
Sweden	67.0	65.7	64.5	63.7	64.1	64.0	63.3	62.8	63.2[p]	–
United Kingdom	63.7	63.1	62.8	62.5	62.7	62.7	62.8	62.7	62.9[p]	–
Employed										
United States[1]	117,718	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	135,208
Canada	12,747	12,672	12,770	13,027	13,271	13,380	13,705	14,068	14,456	14,827
Australia	7,676	7,637	7,680	7,921	8,235	8,344	8,429	8,597	8,785	9,043
Japan	62,920	63,620	63,810	63,860	63,890	64,200	64,900	64,450	63,920	63,790[p]
France	22,120	22,020	21,740	21,730	21,910	21,960	22,090	22,520	22,970	–
Germany[2]	36,920	36,420	36,030	35,890	35,900	35,680	35,570	35,830	36,170	–
Italy	21,360	21,230	20,270	19,940	19,820	19,920	19,990	20,210	20,460	–
Netherlands	6,380	6,540	6,590	6,680	6,730	6,970	7,110	7,360	7,490	–
Sweden	4,447	4,265	4,028	3,992	4,056	4,019	3,973	4,034	4,117	–
United Kingdom	26,090	25,530	25,340	25,550	26,000	26,280	26,740	27,050	27,330[p]	–
Employment-population ratio[4]										
United States[1]	61.7	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.5
Canada	60.2	58.9	58.5	59.0	59.4	59.1	59.7	60.4	61.3	62.1
Australia	57.9	57.0	56.6	57.7	59.1	59.1	58.8	59.2	59.6	60.4
Japan	61.8	62.0	61.7	61.3	60.9	60.9	61.0	60.2	59.4	59.0[p]
France	50.6	50.0	49.0	48.7	48.8	48.5	48.5	49.1	49.8	–
Germany[2]	55.5	54.4	53.4	52.8	52.6	52.2	52.0	52.3	52.8[p]	–
Italy	44.5	44.0	43.0	42.0	41.5	41.6	41.6	41.9	42.3	–
Netherlands	53.4	54.4	54.4	54.8	54.9	56.5	57.4	58.9	59.4	–
Sweden	64.9	62.0	58.5	57.6	58.3	57.7	56.9	57.6	58.7[p]	–
United Kingdom	58.0	56.7	56.2	56.5	57.2	57.6	58.3	58.7	59.1[p]	–
Unemployed										
United States[1]	8,628	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,665
Canada	1,381	1,496	1,530	1,359	1,229	1,271	1,230	1,148	1,058	918
Australia	814	925	939	856	766	783	791	750	685	638
Japan	1,360	1,420	1,660	1,920	2,100	2,250	2,300	2,790	3,170	3,200[p]
France	2,350	2,550	2,900	3,060	2,920	3,130	3,130	3,020	2,890	–
Germany[2]	2,210	2,620	3,110	3,320	3,200	3,500	3,910	3,690	3,460	–
Italy	1,580	1,680	2,300	2,510	2,640	2,650	2,690	2,750	2,670	–
Netherlands	400	390	460	520	510	470	400	310	260	–
Sweden	144	255	415	426	404	440	445	368	313	–
United Kingdom	2,520	2,880	2,970	2,730	2,480	2,340	2,020	1,820	1,760[p]	–
Unemployment rate										
United States[1]	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0
Canada	9.8	10.6	10.7	9.4	8.5	8.7	8.2	7.5	6.8	5.8
Australia	9.6	10.8	10.9	9.7	8.5	8.6	8.6	8.0	7.2	6.6
Japan	2.1	2.2	2.5	2.9	3.2	3.4	3.4	4.1	4.7	4.8[p]
France	9.6	10.4	11.8	12.3	11.8	12.5	12.4	11.8	11.2	9.7[p]
Germany[2]	5.6	6.7	7.9	8.5	8.2	8.9	9.9	9.3	8.7	8.3[p]
Italy	6.9	7.3	10.2	11.2	11.8	11.7	11.9	12.0	11.5	10.7[p]
Netherlands	5.9	5.6	6.5	7.2	7.1	6.3	5.3	4.0	3.4	–
Sweden	3.1	5.6	9.3	9.6	9.1	9.9	10.1	8.4	7.1	5.9[p]
United Kingdom	8.8	10.1	10.5	9.7	8.7	8.2	7.0	6.3	6.1[p]	–

[1] Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

[2] Data from 1991 onward refer to unified Germany. See *Comparative Civilian Labor Force Statistics, Ten Countries, 1959–2000*, Mar. 16, 2001, on the Internet at **http://stats.bls.gov/flsdata.htm**.

[3] Labor force as a percent of the working-age population.

[4] Employment as a percent of the working-age population.

NOTE: See Notes on the data for information on breaks in series for the United States, France, Germany, Italy, the Netherlands, and Sweden.

Dash indicates data are not available.

p = preliminary.

45. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

Item and country	1960	1970	1980	1988	1989	1990	1991	1993	1994	1995	1996	1997	1998	1999
Output per hour														
United States	–	–	70.5	96.9	95.7	96.9	97.8	102.1	107.3	113.8	117.0	121.1	127.0	134.8
Canada	38.7	56.6	75.1	90.9	93.7	95.7	95.3	104.5	109.9	111.0	109.5	112.8	112.5	115.2
Japan	14.0	38.0	63.9	84.8	89.5	95.4	99.4	100.5	101.8	109.3	115.8	121.4	120.4	124.1
Belgium	18.0	32.9	65.4	92.0	96.9	96.8	99.1	102.5	108.4	113.2	115.5	122.4	123.6	124.5
Denmark	29.9	52.7	90.3	94.1	99.6	99.1	99.6	104.5	–	–	–	–	–	–
France	21.8	43.0	66.5	87.5	91.9	93.5	96.9	100.6	108.5	114.5	115.0	122.6	124.0	128.9
Germany	29.2	52.0	77.2	91.5	94.6	99.0	99.0	101.6	110.1	113.2	116.8	122.4	126.7	128.5
Italy	20.2	37.9	65.9	86.7	89.4	92.5	95.2	102.9	105.6	109.3	109.5	111.5	111.1	112.9
Netherlands	18.6	38.1	69.2	93.7	97.1	98.6	99.6	101.4	112.7	117.7	119.7	125.7	127.8	–
Norway	36.7	57.8	76.7	92.1	94.6	96.6	97.5	100.6	101.4	102.0	102.0	103.0	103.9	103.9
Sweden	27.3	52.2	73.1	90.5	93.2	94.6	95.5	107.3	119.4	121.9	124.5	133.0	135.6	139.5
United Kingdom	31.2	44.7	56.1	82.3	86.2	88.3	92.2	104.0	106.8	104.8	103.2	104.0	104.6	109.2
Output														
United States	–	–	75.8	103.2	102.4	101.6	98.3	103.5	111.1	118.4	121.3	127.7	133.5	139.3
Canada	34.2	60.6	86.0	110.1	112.6	108.6	99.0	104.6	113.2	118.1	119.8	128.1	133.1	141.3
Japan	10.7	38.8	59.9	84.6	90.2	96.3	101.4	96.0	95.4	100.6	106.7	111.1	103.6	103.9
Belgium	30.7	57.6	78.2	93.3	99.1	101.0	100.7	97.0	101.4	104.2	105.1	109.9	111.8	113.8
Denmark	40.8	68.0	91.3	100.8	104.3	102.7	101.7	99.0	109.3	114.7	109.7	112.6	115.3	111.5
France	31.0	64.1	88.7	92.2	97.2	99.1	99.8	95.7	100.3	104.9	104.6	109.7	111.5	114.2
Germany	41.5	70.9	85.3	90.9	94.0	99.1	102.3	92.5	95.2	95.3	93.5	96.3	100.9	102.2
Italy	21.9	45.8	80.4	94.5	98.1	99.6	99.2	96.4	102.2	107.2	105.6	108.3	110.3	111.4
Netherlands	31.7	59.5	77.4	92.8	96.9	100.1	100.6	98.2	104.2	107.8	108.4	114.1	116.6	–
Norway	56.5	89.1	103.6	105.3	101.3	100.2	98.3	102.7	106.7	109.0	110.1	115.7	117.6	114.0
Sweden	45.9	80.7	90.7	109.8	110.9	110.1	104.1	101.9	117.1	128.4	131.1	138.6	144.6	150.7
United Kingdom	67.7	90.3	87.2	101.4	105.4	105.3	100.0	101.4	106.1	107.8	108.2	109.6	109.9	109.7
Total hours														
United States	92.1	104.4	107.5	106.6	107.1	104.8	100.4	101.4	103.6	104.0	103.7	105.5	105.2	103.3
Canada	88.3	107.1	114.6	121.2	120.2	113.5	103.9	100.1	103.0	106.4	109.4	113.5	118.3	122.7
Japan	76.3	102.3	93.8	99.8	100.8	100.9	102.0	95.6	93.7	92.0	92.2	91.5	86.1	83.8
Belgium	170.7	174.7	119.7	101.5	102.3	104.3	101.5	94.7	93.6	92.0	91.0	89.8	90.5	91.5
Denmark	136.5	129.0	101.1	107.2	104.7	103.7	102.1	94.8	–	–	–	–	–	–
France	142.3	149.0	133.3	105.4	105.8	105.9	103.0	95.1	92.4	91.6	91.0	89.5	89.9	88.6
Germany	142.3	136.3	110.5	99.3	99.3	100.1	103.3	91.0	86.5	84.2	80.1	78.7	79.6	79.5
Italy	108.7	120.9	122.0	108.9	109.7	107.7	104.2	93.6	96.7	98.0	96.5	97.1	99.3	98.6
Netherlands	170.6	156.2	111.8	99.0	99.8	101.5	101.0	96.9	92.4	91.6	90.5	90.8	91.2	–
Norway	154.0	154.3	135.0	114.3	107.1	103.7	100.8	102.1	105.2	106.9	107.9	112.3	113.2	109.8
Sweden	168.3	154.7	124.0	121.4	119.0	116.4	109.0	94.9	98.1	105.3	105.3	104.2	106.6	108.0
United Kingdom	217.3	202.1	155.3	123.2	122.3	119.2	108.5	97.5	99.4	102.9	104.8	105.4	105.0	100.5
Compensation per hour														
United States	14.9	23.7	55.6	84.0	86.6	90.8	95.6	102.7	105.6	107.9	109.3	111.4	117.3	123.2
Canada	9.9	17.0	47.7	77.8	82.5	89.5	94.7	99.6	100.4	103.6	102.8	106.7	110.8	110.8
Japan	4.3	16.5	58.6	79.2	84.2	90.7	95.9	104.6	106.7	109.5	110.9	113.9	115.8	117.7
Belgium	5.4	13.7	52.5	81.1	85.9	90.1	97.3	104.8	106.1	109.2	112.0	115.2	116.0	116.0
Denmark	4.6	13.3	49.6	82.9	87.7	92.7	95.9	104.6	–	–	–	–	–	–
France	4.3	10.3	40.8	81.6	86.0	90.6	96.2	103.0	105.6	108.4	110.2	113.0	114.9	119.3
Germany	8.1	20.7	53.6	79.1	83.2	89.4	92.1	106.1	112.3	118.5	125.2	128.0	128.9	130.8
Italy	1.6	4.7	28.4	69.3	75.9	84.4	93.6	107.5	107.8	112.8	120.3	125.4	123.0	126.5
Netherlands	6.4	20.2	64.4	87.7	88.5	90.8	95.2	103.7	108.2	110.6	113.2	115.8	118.3	–
Norway	4.7	11.8	39.0	83.3	87.2	92.3	97.5	101.5	104.4	109.2	113.6	118.7	126.2	133.4
Sweden	4.1	10.7	37.3	71.8	79.4	87.8	95.5	97.2	99.8	106.3	114.2	119.7	123.3	127.4
United Kingdom	3.1	6.3	33.2	67.7	72.9	80.9	90.5	104.3	106.5	107.4	108.2	111.4	117.0	122.6
Unit labor costs: National currency basis														
United States	–	–	78.8	86.7	90.5	93.7	97.7	100.6	98.5	94.8	93.5	92.0	92.4	91.4
Canada	25.6	30.1	63.2	85.2	88.0	92.3	99.7	97.6	94.3	95.5	95.9	95.9	98.8	98.1
Japan	30.9	43.3	91.7	93.4	94.0	95.0	96.5	104.1	104.9	100.1	95.8	93.8	96.2	94.9
Belgium	30.1	41.7	80.3	88.1	88.7	93.0	98.1	102.3	97.9	96.4	95.6	93.3	93.7	93.4
Denmark	15.4	25.2	55.0	88.2	88.1	93.6	96.3	100.1	93.0	93.8	100.9	102.0	102.8	108.9
France	19.5	24.0	61.3	93.3	93.6	96.8	99.3	102.4	97.3	94.7	95.9	92.2	92.7	92.6
Germany	27.8	39.8	69.4	86.5	87.9	90.3	93.1	104.5	102.0	104.7	107.2	104.6	101.8	101.8
Italy	7.9	12.4	43.1	79.9	84.9	91.3	98.4	104.4	102.1	103.2	109.9	112.4	110.8	112.0
Netherlands	34.4	52.9	93.0	93.6	91.1	92.1	95.5	102.3	96.0	94.0	94.6	92.2	92.5	–
Norway	12.9	20.4	50.8	90.4	92.2	95.6	100.0	100.9	102.9	107.1	111.4	115.2	121.5	128.5
Sweden	15.0	20.6	51.0	79.4	85.1	92.8	100.0	90.6	83.6	87.2	91.7	90.0	90.9	91.3
United Kingdom	9.8	14.1	59.1	82.2	84.6	91.6	98.2	100.3	99.7	102.5	104.8	107.1	111.9	112.3
Unit labor costs: U.S. dollar basis														
United States	–	–	78.8	86.7	90.5	93.7	97.7	100.6	98.5	94.8	93.5	92.0	92.4	91.4
Canada	32.0	34.8	65.3	83.6	89.8	95.6	105.1	91.4	83.4	84.1	85.0	83.6	80.5	79.8
Japan	10.9	15.3	51.3	92.4	86.3	83.1	90.9	118.8	130.1	135.1	111.7	98.3	93.1	105.7
Belgium	19.4	27.0	88.3	77.0	72.3	89.5	92.3	95.1	94.2	105.2	99.3	83.7	83.0	79.3
Denmark	13.5	20.3	58.9	79.0	72.6	91.3	90.8	93.2	88.3	101.1	105.0	93.1	92.6	94.1
France	21.1	23.0	76.8	82.9	77.6	94.1	93.1	95.6	92.9	100.6	99.2	83.6	83.2	79.6
Germany	10.4	17.1	59.6	76.9	73.0	87.3	87.5	98.6	98.2	114.1	111.3	94.1	90.3	86.6
Italy	15.6	24.4	62.0	75.6	76.2	93.8	97.6	81.8	78.1	78.0	87.8	81.3	78.6	75.9
Netherlands	16.0	25.7	82.3	83.2	75.5	88.9	89.8	96.8	92.8	103.0	98.6	83.0	82.0	–
Norway	11.3	17.8	63.9	86.1	82.9	95.0	95.7	88.3	90.7	105.0	107.1	101.1	100.0	102.2
Sweden	16.9	23.1	70.3	75.4	76.8	91.3	96.3	67.7	63.1	71.2	79.7	68.6	66.6	64.3
United Kingdom	15.6	19.2	77.8	82.9	78.5	92.5	98.2	85.3	86.5	91.6	92.6	99.3	105.0	102.8

NOTE: Data for Germany for years before 1992 are for the former West Germany. Data for 1992 onward are for unified Germany. Dash indicates data not available.

46. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]
PRIVATE SECTOR[5]												
Total cases	8.6	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7	6.3
Lost workday cases	4.0	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1	3.0
Lost workdays	76.1	78.7	84.0	86.5	93.8	–	–	–	–	–	–	–
Agriculture, forestry, and fishing[5]												
Total cases	10.9	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4	7.9	7.3
Lost workday cases	5.6	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1	3.9	3.4
Lost workdays	101.8	100.9	112.2	108.3	126.9	–	–	–	–	–	–	–
Mining												
Total cases	8.8	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9	4.9	4.4
Lost workday cases	5.1	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7	2.9	2.7
Lost workdays	152.1	137.2	119.5	129.6	204.7	–	–	–	–	–	–	–
Construction												
Total cases	14.6	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5	8.8	8.6
Lost workday cases	6.8	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4	4.0	4.2
Lost workdays	142.2	143.3	147.9	148.1	161.9	–	–	–	–	–	–	–
General building contractors:												
Total cases	14.0	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5	8.4	8.0
Lost workday cases	6.4	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7	3.9	3.7
Lost workdays	132.2	137.3	137.6	132.0	142.7	–	–	–	–	–	–	–
Heavy construction, except building:												
Total cases	15.1	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7	8.2	7.8
Lost workday cases	7.0	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3	4.1	3.8
Lost workdays	162.3	147.1	144.6	160.1	165.8	–	–	–	–	–	–	–
Special trades contractors:												
Total cases	14.7	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0	9.1	8.9
Lost workday cases	7.0	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7	4.1	4.4
Lost workdays	141.1	144.9	153.1	151.3	168.3	–	–	–	–	–	–	–
Manufacturing												
Total cases	13.1	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3	9.7	9.2
Lost workday cases	5.7	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8	4.7	4.6
Lost workdays	107.4	113.0	120.7	121.5	124.6	–	–	–	–	–	–	–
Durable goods:												
Total cases	14.2	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3	10.7	10.1
Lost workday cases	5.9	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1	5.0	4.8
Lost workdays	111.1	116.5	123.3	122.9	126.7	–	–	–	–	–	–	–
Lumber and wood products:												
Total cases	19.5	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5	13.2	13.0
Lost workday cases	10.0	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5	6.8	6.7
Lost workdays	189.1	177.5	172.5	172.0	165.8	–	–	–	–	–	–	–
Furniture and fixtures:												
Total cases	16.6	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0	11.4	11.5
Lost workday cases	7.3	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8	5.7	5.9
Lost workdays	115.7	–	–	–	128.4	–	–	–	–	–	–	–
Stone, clay, and glass products:												
Total cases	16.0	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8	11.8	10.7
Lost workday cases	7.5	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7	6.0	5.4
Lost workdays	141.0	149.8	160.5	156.0	152.2	–	–	–	–	–	–	–
Primary metal industries:												
Total cases	19.4	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0	14.0	12.9
Lost workday cases	8.2	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2	7.0	6.3
Lost workdays	161.3	168.3	180.2	169.1	175.5	–	–	–	–	–	–	–
Fabricated metal products:												
Total cases	18.8	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2	13.9	12.6
Lost workday cases	8.0	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4	6.5	6.0
Lost workdays	138.8	147.6	155.7	146.6	144.0	–	–	–	–	–	–	–
Industrial machinery and equipment:												
Total cases	12.1	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0	9.5	8.5
Lost workday cases	4.7	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1	4.0	3.7
Lost workdays	82.8	86.8	88.9	86.6	87.7	–	–	–	–	–	–	–
Electronic and other electrical equipment:												
Total cases	8.0	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6	5.9	5.7
Lost workday cases	3.3	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1	2.8	2.8
Lost workdays	64.6	77.5	79.4	83.0	81.2	–	–	–	–	–	–	–
Transportation equipment:												
Total cases	17.7	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4	14.6	13.7
Lost workday cases	6.6	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6	6.6	6.4
Lost workdays	134.2	138.6	153.7	166.1	186.6	–	–	–	–	–	–	–
Instruments and related products:												
Total cases	6.1	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8	4.0	4.0
Lost workday cases	2.6	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3	1.9	1.8
Lost workdays	51.5	55.4	57.8	64.4	65.3	–	–	–	–	–	–	–
Miscellaneous manufacturing industries:												
Total cases	11.3	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9	8.1	8.4
Lost workday cases	5.1	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2	3.9	4.0
Lost workdays	91.0	97.6	113.1	104.0	108.2	–	–	–	–	–	–	–

See footnotes at end of table.

46. Continued—Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]
Nondurable goods:												
Total cases	11.4	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2	8.8	8.2	7.8
Lost workday cases	5.4	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6	4.4	4.3	4.2
Lost workdays	101.7	107.8	116.9	119.7	121.8	–	–	–	–	–	–	–
Food and kindred products:												
Total cases	18.5	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0	14.5	13.6	12.7
Lost workday cases	9.2	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0	8.0	7.5	7.3
Lost workdays	169.7	174.7	202.6	207.2	211.9	–	–	–	–	–	–	–
Tobacco products:												
Total cases	9.3	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7	5.9	6.4	5.5
Lost workday cases	2.9	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8	2.7	3.4	2.2
Lost workdays	53.0	64.2	62.3	52.0	42.9	–	–	–	–	–	–	–
Textile mill products:												
Total cases	9.6	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8	6.7	7.4	6.4
Lost workday cases	4.0	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6	3.1	3.4	3.2
Lost workdays	78.8	81.4	85.1	88.3	87.1	–	–	–	–	–	–	–
Apparel and other textile products:												
Total cases	8.1	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4	7.0	6.2	5.8
Lost workday cases	3.5	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3	3.1	2.6	2.8
Lost workdays	68.2	80.5	92.1	99.9	104.6	–	–	–	–	–	–	–
Paper and allied products:												
Total cases	13.1	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9	7.3	7.1	7.0
Lost workday cases	5.9	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8	3.7	3.7	3.7
Lost workdays	124.3	132.9	124.8	122.7	125.9	–	–	–	–	–	–	–
Printing and publishing:												
Total cases	6.6	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0	5.7	5.4	5.0
Lost workday cases	3.2	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8	2.7	2.8	2.6
Lost workdays	59.8	63.8	69.8	74.5	74.8	–	–	–	–	–	–	–
Chemicals and allied products:												
Total cases	7.0	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8	4.8	4.2	4.4
Lost workday cases	3.3	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4	2.3	2.1	2.3
Lost workdays	59.0	63.4	61.6	62.4	64.2	–	–	–	–	–	–	–
Petroleum and coal products:												
Total cases	7.0	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6	4.3	3.9	4.1
Lost workday cases	3.2	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5	2.2	1.8	1.8
Lost workdays	68.4	68.1	77.3	68.2	71.2	–	–	–	–	–	–	–
Rubber and miscellaneous plastics products:												
Total cases	16.3	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3	11.9	11.2	10.1
Lost workday cases	8.1	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3	5.8	5.8	5.5
Lost workdays	142.9	147.2	151.3	150.9	153.3	–	–	–	–	–	–	–
Leather and leather products:												
Total cases	11.4	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7	10.6	9.8	10.3
Lost workday cases	5.6	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5	4.3	4.5	5.0
Lost workdays	128.2	130.4	152.3	140.8	128.5	–	–	–	–	–	–	–
Transportation and public utilities												
Total cases	8.9	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2	7.3	7.3
Lost workday cases	5.1	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8	4.3	4.4
Lost workdays	118.6	121.5	134.1	140.0	144.0	–	–	–	–	–	–	–
Wholesale and retail trade												
Total cases	7.8	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8	6.7	6.5	6.1
Lost workday cases	3.5	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9	3.0	2.8	2.7
Lost workdays	60.9	63.5	65.6	72.0	80.1	–	–	–	–	–	–	–
Wholesale trade:												
Total cases	7.6	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5	6.5	6.3
Lost workday cases	3.8	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2	3.3	3.3
Lost workdays	69.2	71.9	71.5	79.2	82.4	–	–	–	–	–	–	–
Retail trade:												
Total cases	7.9	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8	6.5	6.1
Lost workday cases	3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9	2.7	2.5
Lost workdays	57.6	60.0	63.2	69.1	79.2	–	–	–	–	–	–	–
Finance, insurance, and real estate												
Total cases	2.0	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2	.7	1.8
Lost workday cases	.9	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9	.9	.5	.8
Lost workdays	17.2	17.6	27.3	24.1	32.9	–	–	–	–	–	–	–
Services												
Total cases	5.4	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6	5.2	4.9
Lost workday cases	2.6	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5	2.4	2.2
Lost workdays	47.7	51.2	56.4	60.0	68.6	–	–	–	–	–	–	–

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985–88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

[2] Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays;

EH = total hours worked by all employees during the calendar year; and

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

[4] Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

[5] Excludes farms with fewer than 11 employees since 1976.

Dash indicates data not available.

47. Fatal occupational injuries by event or exposure, 1993–98

Event or exposure[1]	Fatalities			
	1993–97	1997[2]	1998	
	Average	Number	Number	Percent
Total	6,335	6,238	6,026	100
Transportation incidents	2,611	2,605	2,630	44
Highway incident	1,334	1,393	1,431	24
Collision between vehicles, mobile equipment	652	640	701	12
Moving in same direction	109	103	118	2
Moving in opposite directions, oncoming	234	230	271	4
Moving in intersection	132	142	142	2
Vehicle struck stationary object or equipment	249	282	306	5
Noncollision incident	360	387	373	6
Jackknifed or overturned—no collision	267	298	300	5
Nonhighway (farm, industrial premises) incident	388	377	384	6
Overturned	214	216	216	4
Aircraft	315	261	223	4
Worker struck by a vehicle	373	367	413	7
Water vehicle incident	106	109	112	2
Railway	83	93	60	1
Assaults and violent acts	1,241	1,111	960	16
Homicides	995	860	709	12
Shooting	810	708	569	9
Stabbing	75	73	61	1
Other, including bombing	110	79	79	1
Self-inflicted injuries	215	216	223	4
Contact with objects and equipment	1,005	1,035	941	16
Struck by object	573	579	517	9
Struck by falling object	369	384	317	5
Struck by flying object	65	54	58	1
Caught in or compressed by equipment or objects	290	320	266	4
Caught in running equipment or machinery	153	189	129	2
Caught in or crushed in collapsing materials	124	118	140	2
Falls	668	716	702	12
Fall to lower level	591	653	623	10
Fall from ladder	94	116	111	2
Fall from roof	139	154	156	3
Fall from scaffold, staging	83	87	97	2
Fall on same level	52	44	51	1
Exposure to harmful substances or environments	586	554	572	9
Contact with electric current	320	298	334	6
Contact with overhead power lines	128	138	153	3
Contact with temperature extremes	43	40	46	1
Exposure to caustic, noxious, or allergenic substances	120	123	104	2
Inhalation of substances	70	59	48	1
Oxygen deficiency	101	90	87	1
Drowning, submersion	80	72	75	1
Fires and explosions	199	196	205	3
Other events or exposures[3]	26	21	16	-

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] The BLS news release issued August 12, 1998, reported a total of 6,218 fatal work injuries for calendar year 1997. Since then, an additional 20 job-related fatalities were identified, bringing the total job-related fatality count for 1997 to 6,238.

[3] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dash indicates less than 0.5 percent.

4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2000											2001	
	1999	2000	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
TOTAL															
Civilian noninstitutional population[1]	207,753	209,699	208,907	209,053	209,216	209,371	209,543	209,727	209,935	210,161	210,378	210,577	210,743	210,889	211,026
Civilian labor force	139,368	140,863	141,860	140,705	141,114	140,573	140,757	140,546	140,724	140,847	141,000	141,136	141,489	141,955	141,751
Participation rate	67.1	67.2	67.4	67.3	67.4	67.1	67.2	67.0	67.0	67.0	67.0	67.0	67.1	67.3	67.2
Employed	133,488	135,208	135,120	135,013	135,517	134,843	135,183	134,898	134,939	135,310	135,464	135,478	135,836	135,999	135,815
Employment-population ratio[2]	64.3	64.5	64.7	64.6	64.8	64.4	64.5	64.3	64.3	64.4	64.4	64.3	64.5	64.5	64.4
Unemployed	5,880	5,655	5,740	5,692	5,597	5,730	5,574	5,648	5,785	5,537	5,536	5,658	5,653	5,956	5,936
Unemployment rate	4.2	4.0	4.1	4.0	4.0	4.1	4.0	4.0	4.1	3.9	3.9	4.0	4.0	4.2	4.2
Not in the labor force	68,385	68,836	68,047	68,348	68,102	68,798	68,786	69,181	69,211	69,314	69,378	69,441	69,254	68,934	69,275
Men, 20 years and over															
Civilian noninstitutional population[1]	91,555	92,580	92,092	92,145	92,303	92,408	92,546	92,642	92,754	92,863	92,969	93,061	93,117	93,184	93,277
Civilian labor force	79,104	70,930	70,952	70,773	70,776	70,666	70,785	70,782	71,029	71,053	71,155	71,135	71,289	71,492	71,288
Participation rate	76.7	76.6	77.0	76.8	76.7	76.5	76.5	76.4	76.6	76.5	76.5	76.4	76.6	76.7	76.5
Employed	67,761	68,580	68,557	68,445	68,473	68,315	68,489	68,495	68,710	68,728	68,774	68,683	68,848	68,916	68,761
Employment-population ratio[2]	74.0	74.1	74.5	74.3	74.2	73.9	74.0	73.9	74.1	74.0	74.0	73.8	73.9	74.0	73.8
Agriculture	2,028	2,252	2,283	2,240	2,248	2,228	2,262	2,280	2,276	2,350	2,219	2,122	2,232	2,122	2,154
Nonagricultural industries	65,517	66,328	66,294	66,205	66,225	66,087	66,227	66,215	66,434	66,378	66,555	66,561	66,616	66,795	66,607
Unemployed	2,433	2,350	2,375	2,328	2,303	2,347	2,296	2,287	2,319	2,325	2,381	2,452	2,441	2,576	2,527
Unemployment rate	3.5	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.6	3.5
Women, 20 years and over															
Civilian noninstitutional population[1]	100,158	101,078	100,666	100,713	100,809	100,929	101,007	101,111	101,209	101,321	101,448	101,533	101,612	101,643	101,686
Civilian labor force	60,840	61,565	61,488	61,573	61,856	61,582	61,561	61,535	61,265	61,486	61,528	61,625	61,819	62,126	62,220
Participation rate	60.7	60.9	61.1	61.1	61.4	61.0	60.9	60.9	60.5	60.7	60.6	60.7	60.8	61.1	61.2
Employed	58,555	59,352	59,285	59,326	59,651	59,264	59,282	59,273	58,992	59,344	59,425	59,506	59,708	59,894	59,932
Employment-population ratio[2]	58.5	58.7	58.9	58.9	59.2	58.7	58.7	58.6	58.3	58.6	58.6	58.6	58.8	58.9	58.9
Agriculture	803	818	854	866	871	846	829	797	808	764	748	797	822	852	839
Nonagricultural industries	57,752	58,535	58,431	58,460	58,780	58,418	58,453	58,476	58,184	58,580	58,677	58,709	58,886	59,042	59,093
Unemployed	2,285	2,212	2,203	2,247	2,205	2,318	2,279	2,262	2,273	2,142	2,103	2,119	2,111	2,232	2,288
Unemployment rate	3.8	3.6	3.6	3.6	3.6	3.8	3.7	3.7	3.7	3.5	3.4	3.4	3.4	3.6	3.7
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	16,040	16,042	16,149	16,196	16,104	16,034	15,991	15,974	15,972	15,977	15,960	15,983	16,014	16,063	16,113
Civilian labor force	8,333	8,369	8,420	8,359	8,482	8,329	8,411	8,229	8,430	8,308	8,317	8,376	8,381	8,337	8,243
Participation rate	52.0	52.2	52.1	51.6	52.7	51.9	52.6	51.5	52.8	52.0	52.1	52.4	52.3	51.9	51.2
Employed	7,172	7,216	7,258	7,242	7,393	7,264	7,412	7,130	7,237	7,238	7,265	7,289	7,280	7,188	7,122
Employment-population ratio[2]	44.7	45.4	44.9	44.7	45.9	45.3	46.4	44.6	45.3	45.3	45.5	45.6	45.5	44.7	44.2
Agriculture	234	235	230	232	241	220	222	218	233	242	274	257	220	205	143
Nonagricultural industries	6,938	7,041	7,028	7,010	7,152	7,044	7,190	6,912	7,004	6,996	6,991	7,032	7,060	6,983	6,980
Unemployed	1,162	1,093	1,162	1,117	1,089	1,065	999	1,099	1,193	1,070	1,052	1,087	1,101	1,149	1,121
Unemployment rate	13.9	13.1	13.8	13.4	12.8	12.8	11.9	13.4	14.2	12.9	12.6	13.0	13.1	13.8	13.6
White															
Civilian noninstitutional population[1]	173,085	174,428	173,886	173,983	174,092	174,197	174,316	174,443	174,587	174,745	174,899	175,034	175,145	175,246	175,362
Civilian labor force	116,509	117,574	117,661	117,592	117,800	117,329	117,477	117,298	117,554	117,553	117,603	117,640	117,945	118,276	118,287
Participation rate	67.3	67.4	67.7	67.6	67.7	67.4	67.4	67.2	67.3	67.3	67.2	67.2	67.3	67.5	67.5
Employed	112,235	113,475	113,501	113,435	113,710	113,240	113,493	113,201	113,378	113,464	113,584	113,509	113,811	114,015	113,902
Employment-population ratio[2]	64.8	65.1	65.3	65.2	65.3	65.0	65.1	64.9	64.9	64.9	64.9	64.8	65.0	65.1	65.0
Unemployed	4,273	4,099	4,160	4,157	4,090	4,089	3,984	4,097	4,176	4,089	4,019	4,131	4,134	4,261	4,385
Unemployment rate	3.7	3.5	3.5	3.5	3.5	3.5	3.4	3.5	3.6	3.5	3.4	3.5	3.5	3.6	3.7
Black															
Civilian noninstitutional population[1]	24,855	25,218	25,076	25,105	25,135	25,161	25,191	25,221	25,258	25,299	25,339	25,376	25,408	25,382	25,412
Civilian labor force	16,365	16,603	16,721	16,550	16,586	16,577	16,573	16,501	16,540	16,489	16,627	16,732	16,742	16,773	16,691
Participation rate	65.8	65.8	66.7	65.9	66.0	65.9	65.8	65.4	65.5	65.2	65.6	65.9	65.9	66.1	65.7
Employed	15,056	15,334	15,416	15,312	16,376	15,264	15,277	15,232	15,239	15,304	15,401	15,485	15,470	15,372	15,440
Employment-population ratio[2]	60.6	60.8	61.5	61.0	61.2	60.7	60.6	60.4	60.3	60.5	60.8	61.0	60.9	60.6	60.8
Unemployed	1,309	1,269	1,305	1,238	1,210	1,313	1,296	1,269	1,301	1,185	1,226	1,247	1,272	1,401	1,251
Unemployment rate	8.0	7.6	7.8	7.5	7.3	7.9	7.8	7.7	7.9	7.2	7.4	7.5	7.6	8.4	7.5

See footnotes at end of table.

NOTE: Table 4 was erroneously omitted from the April *Monthly Labor Review.*

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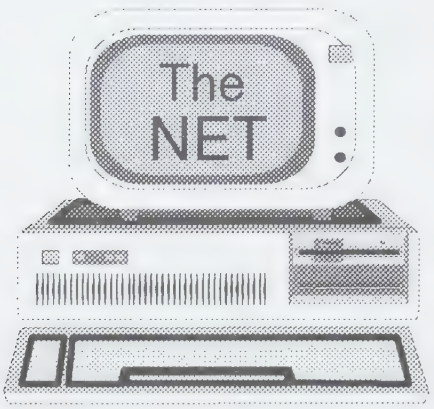

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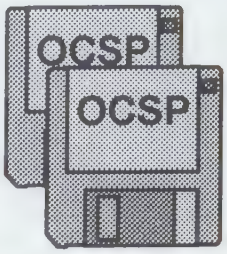

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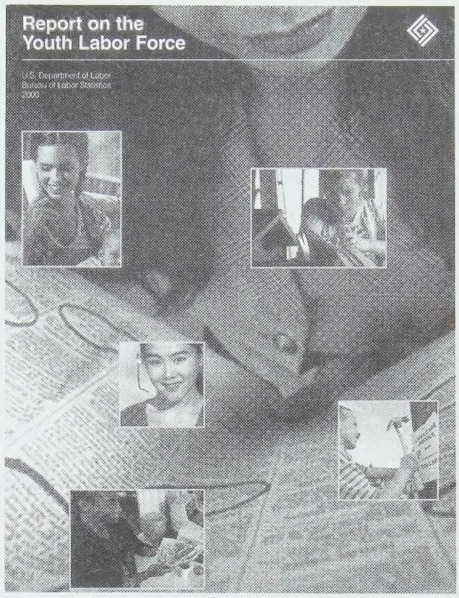

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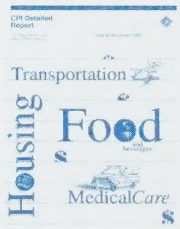

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Productivity and costs	May 8	1st quarter	June 5	1st quarter			2; 39–42
U.S. Import and Export Price Indexes	May 10	April	June 13	May	July 12	June	34–38
Producer Price Indexes	May 11	April	June 14	May	July 13	June	2; 31–33
Consumer Price indexes	May 16	April	June 15	May	July 18	June	2; 28–30
Real earnings	May 16	April	June 15	May	July 18	June	14, 16
Employment Cost Indexes					July 26	2nd quarter	1–3; 21–24